

Title: The Merchant Shipping (Accident Investigation and Reporting) Regulations 2012 IA No: DfT00130 Lead department or agency: Department for Transport on behalf of the Marine Accident Investigation Branch (MAIB) Other departments or agencies:	Impact Assessment (IA)
	Date: 01/05/2012 Stage: Final Source of intervention: EU Type of measure: Secondary legislation Contact for enquiries: Stewart Agnew 023 8039 5503 Stewart.Agnew@dft.gsi.gov.uk
Summary: Intervention and Options	RPC: AMBER

Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Measure qualifies as One-Out?
-£6.08m	NQ	NQ	No
What is the problem under consideration? Why is government intervention necessary? Commercial fishing and merchant seafaring are two of the most hazardous occupations in the UK. The high casualty rate in the UK fishing industry has been associated with the frequent loss of fishing vessels. Accident investigations help prevent future accidents of a similar nature, but as shipping is international in nature, the patchwork of regulations across the EU makes it difficult to produce a pan-European approach to Marine Accident Investigation and compare accident statistics. UK law is currently not in agreement with Directive 2009/18/EC ("The Directive"), which is designed to harmonise the reporting and investigation requirements for marine accidents, and the manner in which they are investigated, across the EU.			

What are the policy objectives and the intended effects? The policy objective is to promote safety at sea and prevent future accidents by a) maintaining the internationally-recognised high standard of work at the MAIB in promulgating safety recommendations with the objective of preventing similar accidents, and promoting the safety of life at sea along with environmental safety by investigating marine accidents; and b) harmonising reporting and investigation of marine accidents and incidents in the UK with the new EU-wide regime. There is also the overarching objective to achieve this at the lowest burden on business.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base) Existing UK legislation is not currently totally in agreement with the Directive, so doing nothing is not considered to be an appropriate course of action. Two policy options for implementing the Directive in the UK have been considered in this impact assessment. Option 1, which is a direct copy-out of the Directive, doing the minimum required to implement it. Option 2, which is a copy-out of the Directive where it exceeds the existing UK requirements, as found in the 2005 Regulations, but retaining existing UK standards on operational accidents where these exceed the requirements of the Directive. The options mainly differ in two ways: 1.) the types of vessels required to report accidents; and 2.) the obligations on the MAIB to investigate. These differences are presented in the table at Annex 2. Option 2 is the preferred option as it brings UK law into harmony with the Directive and gives the MAIB the freedom to investigate accidents where it considers the most useful lessons to improve safety at sea can be learnt.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 01/2016						
Does implementation go beyond minimum EU requirements?			Yes			
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.		Micro Yes	< 20 Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)				Traded: NA	Non-traded: NA	

I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible Minister: _____ Mike Penning _____ Date: 04/07/2012.

Summary: Analysis & Evidence

Policy Option 1

Description: Implement the requirements of the Directive via copy-out and revoke existing UK legislation (including the requirements which go beyond the requirements of the Directive)

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period	Net Benefit (Present Value (PV)) (£m)		
			Low: -£10.60m	High: £2.51m	Best Estimate: -£3.69m

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	£0.13m	1	£0.33m	£2.97m
High	£0.15m		£1.32m	£11.52m
Best Estimate	£0.14m		£0.69m	£6.08m

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

Relative to the Do Nothing scenario (i.e. a scenario where the UK takes no action to implement the Directive), there are some transition costs to MAIB and DfT in order to develop a new database that is compatible with the European Marine Casualty Information Platform and familiarise themselves with it, and ongoing costs to MAIB in order to undertake extra investigations. These costs would be absorbed within existing budgets and would not have any financial implications for the government.

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

1.) Costs to business could include a) an increase in reporting requirements for types of accidents and vessel; b) costs associated with formal enquiries; c) costs associated with an increase in MAIB investigations; and d) familiarisation costs. 2.) There would cease to be accident reports aimed at improving safety in several marine sectors. 3.) The government could incur costs through holding formal enquiries into accidents.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	NA	NA	£0.11m	£0.91m
High	NA		£0.65m	£5.48m
Best Estimate	NA		£0.28m	£2.39m

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

1.) There could be time savings for inland waterways vessels and small fishing vessels as a result of the withdrawal of existing requirements to report accidents and incidents to the MAIB. The value of this benefit has been estimated but is very uncertain. 2.) The MAIB would not have the responsibility to process and investigate some accident reports it currently has responsibility for, which could free up some of its resources.

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

1.) The MAIB would have access to an EU database of accident reports, which could be a useful tool. 2.) More stringent reporting requirements for environmental pollution could help to avoid similar accidents in future. 3.) Accident investigation reports would be collected and investigated for shore based workers, promoting safety at work in marine related industry. 4.) Businesses would not have to participate in MAIB inquiries into accidents involving inland waterways and small fishing vessels.

Key assumptions/sensitivities/risks

Discount rate (%) 3.5

1) It is assumed that the time impacts of the legislation would not significantly impact on the productivity of many vessels affected, but would be absorbed within current levels of non-productive time. 2) It is assumed that the Directive would be implemented across the EU and the EEA. 3) The MAIB faces the budgetary risk of being exposed to unexpected levels of marine accidents in future, as the Directive requires all accidents of a certain severity to be investigated.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: NQ	Benefits: 0.00	Net: NQ	No	NA

Summary: Analysis & Evidence

Policy Option 2

Description: Implement requirements of the Directive where it exceeds existing UK requirements and retain some existing UK requirements where they exceed the Directive's requirements.

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: -£11.52m	High: -£2.97m	Best Estimate: -£6.08m

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)	
Low	£0.13m	1	£0.33m	£2.97m
High	£0.15m		£1.32m	£11.52m
Best Estimate	£0.14m		£0.69m	£6.08m

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

Relative to the Do Nothing scenario (i.e. a scenario where the UK takes no action to implement the Directive), there are some transition costs to MAIB and DfT in order to develop a new database that is compatible with the European Marine Casualty Information Platform and familiarise themselves with it, and ongoing costs to MAIB in order to undertake extra investigations. These costs would be absorbed within existing budgets and would not have any financial implications for the government.

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

1.) There would be an increase in reporting requirements for types of accidents and types of vessel. 2.) There would be some familiarisation time required from industry with a change in legislation. 3.) Businesses could also incur additional costs due to the increase in MAIB investigations.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)	
Low	NQ	NA	NQ	NQ
High	NQ		NQ	NQ
Best Estimate	NQ		NQ	NQ

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

It has not been possible to monetise any of the benefits of Option 2 that have been identified in this impact assessment.

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

1.) MAIB would have access to an EU database of accident reports, which could be a useful and cost effective tool. 2.) More stringent reporting requirements for environmental pollution could help to avoid future accidents of a similar nature. 3.) Accident investigation reports would continue with a wider scope (including shore based workers) than the status quo, promoting marine safety.

Key assumptions/sensitivities/risks

Discount rate (%)

3.5

1) It is assumed that the time impacts of the legislation would not significantly impact on the productivity of many vessels affected, but would be absorbed within current levels of non-productive time. 2) It is assumed that the Directive would be implemented across the EU and the EEA. 3) The MAIB faces the budgetary risk of being exposed to unexpected levels of marine accidents in future, as the Directive requires all accidents of a certain severity to be investigated

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: NQ	Benefits: NQ	Net: NQ	No	NA

Evidence Base (for summary sheets)

BACKGROUND TO PROPOSALS

1. The Marine Accident Investigation Branch (MAIB) is a branch of the Department for Transport (DfT). It is functionally and operationally independent of the DfT, except for three-yearly budget allocations. The MAIB is not part of the Maritime and Coastguard Agency (MCA). The MAIB's role is to investigate marine accidents and incidents (near-misses) with a view to establishing the causes and circumstances of the accident or incident, in order to learn lessons that might prevent similar accidents or incidents in future. It is not the MAIB's role to determine liability, nor except as far as is necessary to achieve its aims, apportion blame.
2. The MAIB employs a team of inspectors and associated support staff and deploys to the scene of between 40 and 100 accidents per year, involving vessels in UK waters as well as UK vessels in foreign waters. The MAIB also investigates many other marine accidents, in the form of telephone enquiries.
3. In line with Departmental spending cuts, the MAIB has recently reduced its administrative expenditure and staff numbers.
4. The MAIB publishes reports into individual marine accidents as well as consolidated groups of reports.
5. Section 267 of the Merchant Shipping Act 1995 currently enables the Secretary of State to appoint inspectors of marine accidents, together with a Chief Inspector of marine accidents. It also sets out powers to enable the Secretary of State to make regulations with respect to the investigation of marine accidents, as well as setting out the general powers available to inspectors of marine accidents.
6. These powers are given application by the Merchant Shipping (Accident Reporting and Investigation) Regulations 2005 ("the 2005 Regulations"). The 2005 Regulations specify the purpose of investigations, make provision for their scope and conduct, define the accidents and incidents which may be investigated and set out the requirements for reporting accidents and the publication of reports and summaries.
7. The Regulations are updated periodically and this Impact Assessment accompanies proposed 'The Merchant Shipping (Accident Investigation and Reporting) Regulations 2012' ("2012 Regulations") and new operational and administrative procedures required to complete transposition of European Directive 2009/18/EC ("the Directive").
8. The 2012 Regulations would make a number of changes to the 2005 Regulations. These revisions are mostly mandated by the Directive which seeks to harmonise the reporting and investigation of marine accidents across the EU. The UK is required by the European Commission (EC) to update its domestic law to reflect these requirements, as is required by the European Communities Act 1972 (as revised).
9. The Directive was based on the 2005 Regulations and, as such, does not significantly change the way the MAIB operates. The proposed changes are described in the Options section.
10. On the 19th of January 2012 the MAIB began a consultation on the draft new regulations to gain insight and opinion from key maritime industry stakeholders. The consultation presented two options for implementing the Directive in the United Kingdom.
 - Option 1: Implement the minimum requirements of the Directive via copy-out and revoke existing UK legislation (including the requirements which go beyond the requirements of the Directive).
 - Option 2: Implement the requirements of the Directive where it exceeds existing UK requirements and retain some existing UK requirements where these exceed the requirements of the Directive. (Notably, to preserve the ability to conduct safety investigations over certain classes of vessels: namely fishing vessels under 15 metres in length and inland waterway craft).

11. Option 1 is a direct copy out that would require changing existing UK legislation, including reducing some existing scope. Option 2 retains all UK regulation that is compliant or in excess of the Directive and amends other articles of the Regulation that are insufficient to meet the Directive requirements. In practical terms, the difference between the two options is that Option 2 will allow the MAIB Chief Inspector to retain the discretion as to whether to investigate accidents involving vessels outside of the scope of the Directive.¹ And will retain the requirement for businesses to report accidents involving these vessels to the MAIB.
12. During the consultation, the MAIB received strong opinion from UK industry that the costs to business of retaining these requirements were far outweighed by the benefits of continued safety investigations. It has not been possible to fully monetise these costs and benefits. However, the Present Value of the cost to businesses of reporting accidents involving vessels outside the scope of the Directive to the MAIB has been estimated at around £4,475 (Best estimate) over the 10 appraisal period (see Paragraph 68).
13. The consultation closed on the 24th of February 2012. Thirty two responses were received from a variety of interested parties. Twenty four responses favoured Option 2 and none favoured Option 1 (eight gave no comment).
14. MAIB welcomed the support shown for option 2, and proposes to make the 2012 Regulations on that basis.

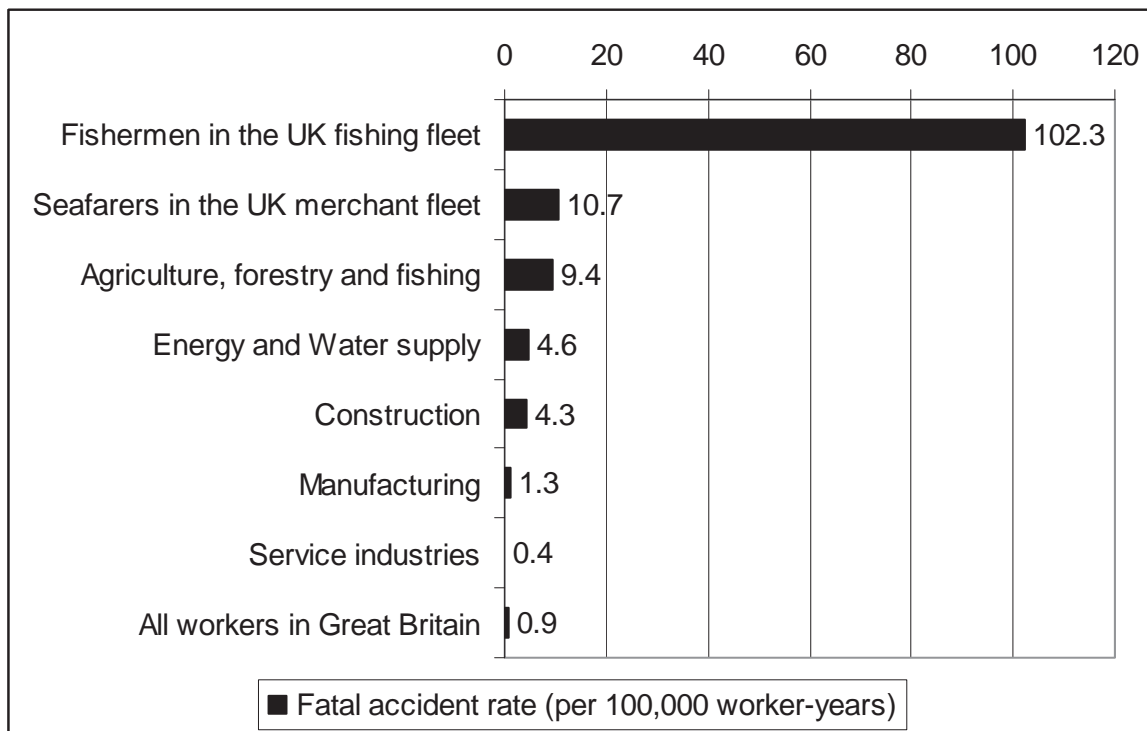
PROBLEMS UNDER CONSIDERATION

15. The main problem under consideration is that commercial fishing and merchant seafaring are two of the most hazardous occupations in the UK. From 1996 to 2005, the fatal accident rate in UK merchant shipping was 11 per 100,000 seafarer-years, and in the UK fishing industry it was 102 per 100,000 fisherman years, compared to 0.9 per 100,000 worker years in the general workforce (see Figure 1). The high casualty rate in the UK fishing industry has been associated with the frequent loss of fishing vessels. **It has also been seen that fishermen in smaller vessels, particularly those under 10m in length are more at risk of a fatal accident at work than other fishing vessels².** Accident investigation has been seen to help avoid future accidents of a similar nature by promulgating lessons learnt. Avoiding accidents reduces the risks of injuries, fatalities and harmful marine pollution.

¹ Fishing vessels less than 15m in length, inland waterways vessels and wooden ships of primitive build.

² DfT, Update of mortality for workers in the UK merchant shipping and fishing sectors, July 2007, http://www.dft.gov.uk/mca/rp_578_final_report_revision_2-2.pdf

Figure 1: Fatal accident rates (for accidents at work) among seafarers and fishermen employed in UK merchant shipping and fishing, in the general workforce and in the five main industrial sectors of Great Britain, 1996-2005



Source: *DfT*, Update of mortality for workers in the UK merchant shipping and fishing sectors, July 2007

16. Due to the international nature of shipping, the success of marine accident investigation programs can depend on the efficiency of international cooperation, but across the EU, procedures for investigation of marine accidents are varied. Currently, it is legally unclear which state should investigate maritime accidents and casualties, and there is a patchwork of individual approaches across Europe for accident investigation. The information collected from these investigations is therefore not easily comparable or available to all marine accident investigators as a pan-European resource.
17. The Directive is designed to harmonise the reporting and investigation requirements for marine accidents, and the manner in which they are investigated, across the EU. However, the Directive does not include a requirement to investigate accidents involving fishing vessels under 15m in length, inland waterways vessels or wooden ships of primitive build (including those ships not propelled by mechanical means). The relatively high risk of fatal accidents faced by small fishing vessels and inland waterways vessels in particular means that if these sectors of the UK's fleet were removed from the MAIB's investigative scope, a very significant proportion of fatal accidents would no longer be investigable by the MAIB. In particular, inland waterway vessels and fishing vessels under 15m in length have accounted for around 41% of operational accidents on average between 1991 and 2010, with a range between 32% and 49% (See **Table 1**). While wooden ships of primitive build do not form a major part of the MAIB's work, when accidents do occur on board this vessel type, it is the MAIB's view that useful and important lessons can be learnt to improve safety, due to their particular features and hazards, such as high rigging. The dissemination of MAIB reports helps to avoid similar accidents in future, and is particularly powerful in small communities. Anecdotally, skippers have remembered conclusions of previous reports to avoid making the same mistakes. Without these reports, avoidable accidents could continue to occur due to a lack of lessons learnt from previous incidents.

Table 1: Reported accidents in connection with the operation of a ship in certain maritime sectors

Accidents	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Inland Waterway Vessels	17	13	16	8	16	25	18	19	33	16
Fishing vessels under 15m in length	375	445	518	496	506	453	409	317	292	276
Wooden Ships of Primitive Build	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
Total accidents in connection with the operation of a ship	892	1062	1121	1020	1092	1013	957	780	758	734
Inland Waterway Vessels and <15m fishing vessels proportion of total accidents	44%	43%	48%	49%	48%	47%	45%	43%	43%	40%

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Inland Waterway Vessels	17	39	50	39	82	61	70	52	54	40
Fishing vessels under 15m in length	260	257	307	277	307	321	309	227	230	278
Wooden Ships of Primitive Build	1	1	No Data	2	2	2	7	3	6	4
Total accidents in connection with the operation of a ship	720	744	810	809	1124	1056	1005	788	881	896
Inland Waterway Vessels and <15m fishing vessels proportion of total accidents	38%	40%	44%	39%	35%	36%	38%	35%	32%	35%

Source: MAIB

18. It should be noted that the MAIB also currently receive a large amount of reports of accidents not in connection with the operation of a ship, for example, slips, trips, scaldings and so on. Out of a total of 14,310 accidents reported between 2001 and 2010, 5,477 of them were not in connection with the operation of a ship. This represents 38% of reports submitted. However, these accidents are not covered by MAIB regulations and are currently forwarded to the Health and Safety Executive (HSE) or the Maritime and Coastguard Agency (MCA) where appropriate; this will not change under either of the policy options considered in this impact assessment. The MAIB is not the best placed body in terms of resources or specialisation to be dealing with these incidents. The MCA and the HSE are better placed to deal with these types of accidents than the MAIB.

RATIONALE FOR INTERVENTION

19. UK law is currently not in agreement with the Directive, which is designed to harmonise the reporting and investigation requirements for marine accidents, and the manner in which they are investigated, across the EU. The UK is required to amend the existing UK legislation to reflect the requirements of the Directive.
20. Without the existence of the MAIB and their investigations into the causes of marine accidents, valuable lessons may not be learnt from these accidents, which can help prevent fatalities, injuries, pollution and damage to commercial interests (such as ships) caused by accidents. These impartial investigations should be provided publicly, as they would not be properly provided by the market. There would be conflicting interests if they were privately provided, as shipping companies would not have an incentive to publicise their safety issues, and accidents often happen to parties who would not be likely to have the resources to carry out an investigation themselves (such as share fishermen). The reports are also publicly and freely available, and if the investigations and reports were privately carried out, the restriction for commercial gain on the dissemination of the information learned from investigations would not be in the interests of prevention of accidents and protection of life.

21. Shipping can be difficult to regulate at a national level, due to its inherent international nature. Without international government intervention, the treatment of seafarers may not be equal and fair across the EU. It is currently difficult for the UK to compel foreign marine investigation bodies to investigate accidents involving British interests up to UK standards, if at all. The Directive provides legal clarity on rights and responsibilities for accident investigations to member states' legal frameworks, ensuring swift and thorough investigations of accidents, and encouraging cooperation between interested states.
22. By transposing the Directive, the UK would contribute to, have access to, and be familiar with the *European Marine Casualty Information Platform*, a European Commission database containing information from all marine accident investigations carried out by EU member states. This is likely to become a valuable tool and source of background information, and will only become available to the MAIB by the UK transposing the Directive.
23. Despite the MAIB already being in operational compliance with the Directive (see Paragraph 34), the UK is obliged to transpose the Directive into domestic law, as UK law on accidents investigation and reporting is not currently in agreement with the Directive. For example, the Directive mandates investigation into very serious marine casualties. Current UK law does not mandate the investigation of any type of accident, rather, it is based on the individual cases and final decision to investigate is at the discretion of the Chief Inspector.
24. Under the 2005 Regulations, the MAIB is able to investigate accidents involving fishing vessels under 15m in length, inland waterways vessels and wooden ships of primitive build, and has the freedom to choose which accidents involving these vessels it investigates. It chooses which accidents to investigate mainly based upon the likelihood that lessons will be learned from the investigation, preventing future similar accidents, and has investigated a number of accidents involving these vessels in recent years, and 14 deaths in the <15m fishing vessel category between January and July 2011. However, the requirements of the Directive do not include a requirement to investigate accidents involving these vessels. **The MAIB feels that not having the option to investigate accidents involving these vessel types would seriously undermine the effectiveness of the MAIB at improving safety of life at sea. Therefore, the MAIB believes that there is a good rationale for maintaining some of the MAIB's current scope of investigation in excess of that prescribed by the Directive to include fishing vessels less than 15m in length, inland waterways vessels and wooden ships of primitive build.**

POLICY OBJECTIVES

25. The policy objectives are to:
 - Promote safety at sea and prevent future accidents by
 - a. maintaining the internationally-recognised high standard of work at the MAIB in: promulgating safety recommendations with the objective of preventing similar accidents; and promoting the safety of life at sea and environmental safety through investigating marine accidents.
 - b. harmonising reporting and investigation of marine accidents and incidents in the UK with the new EU-wide regime.
 - There is also the overriding objective to achieve this at the lowest burden on business.

DESCRIPTION OF OPTIONS CONSIDERED

Do Nothing

26. For the purposes of this impact assessment, the Do Nothing scenario is a scenario where the UK takes no action to implement the Directive.
27. Existing UK legislation is currently not in agreement with the Directive. Doing nothing would therefore not achieve the key policy objective of harmonising EU marine accident investigation regulations, and is not therefore considered to be an appropriate course of action.
28. The MAIB has explored non-regulatory methods of achieving its policy objectives, but there is an unavoidable requirement to update UK law to reflect the Directive.

29. The “Do Nothing” scenario is therefore only used as the counterfactual for appraisal purposes.

30. Two policy options have been considered in this impact assessment.

- a. Option 1: Implement the minimum requirements of the Directive via copy-out and revoke existing UK legislation (including the requirements which go beyond the requirements of the Directive).
- b. Option 2: Implement the requirements of the Directive where it exceeds existing UK requirements and retain some existing UK requirements where these exceed the requirements of the Directive.

31. Options 1 and 2 are assessed against the “Do Nothing” scenario.

32. The options mainly differ in two ways: the types of vessels required to report accidents and the obligations on the MAIB to investigate. These are presented in the tables at **Annex 2**.

Option 1: Implement the minimum requirements of the Directive via copy-out and revoke existing UK legislation (including the requirements which go beyond the requirements of the Directive).

33. This option is a direct copy-out of the Directive, and represents substantial changes over the “Do Nothing” scenario. These are summarised in the tables at **Annex 2** and described below.

- a. A key change from the “Do Nothing” scenario is that accidents involving vessels ‘involving the substantial interests of the United Kingdom,’ are required to be reported. This is a new class of vessel and is defined by an IMO Circular³. The United Kingdom would have substantial interests in a vessel for many reasons, such as if there were UK casualties in a marine accident (see **Annex 3** for full list), but primarily if:
 - A ship involved in a marine casualty or marine incident is registered in the UK; or
 - A marine casualty or marine incident occurs in UK waters (See **Annex 3** for definitions).

It is difficult to estimate the number of vessels which may be deemed to involve the substantial interests of the United Kingdom, as this is a new definition of vessel class which is open to some interpretation, and the MAIB currently does not collect statistics on whether a vessel involves the UK’s substantial interests. Notwithstanding the above, this change should help prevent the non-reporting of accidents happening abroad or involving a foreign flagged vessel in which the UK has a substantial interest, and provide a platform for international cooperation and accountability for marine accidents.

- b. Unlike the “Do Nothing” scenario and Option 2, Option 1 would not oblige fishing vessels under 15 metres in length, inland waterways vessels, or wooden ships of primitive build to report accidents (See **Annex 3** for definitions and **Annex 2, Table 1** for a table of comparisons of reporting requirements).
- c. Option 1 would change the types of accidents required to be reported, increasing the number of reportable accidents and incidents (See **Annex 2, Table 1**). Option 1 would introduce the requirement for the reporting of accidents which involve vessels in which the UK has substantial interests, as mentioned above, which themselves involve:
 - Very Serious Marine Casualties (VSMCs)⁴
 - Serious Marine Casualties (SMCs)⁵, which do not qualify as Very Serious
 - Marine Casualties⁶, which qualify as neither Serious nor Very Serious
 - Marine Incidents⁷, which are any occurrences which do not qualify as Marine Casualties, Serious Marine Casualties or Very Serious Marine Casualties, which have led to or, if uncorrected, could lead to the endangerment of: the safety of a ship; its occupants or any other person or the environment.

³ International Maritime Organisation Resolution MSC.255 (84), Annex 1, p.10, paragraph 2.20, 16th May 2008.

⁴ See glossary in Annex 3

⁵ See glossary in Annex 3

⁶ See glossary in Annex 3

⁷ See glossary in Annex 3

- Stevedores and shore-based workers, where killed or injured in connection with the operation of a ship.

These definitions differ from those currently used by the MAIB for accident reporting, so it is difficult to compare the changes in reporting requirements, but as shown in **Annex 2**, the MAIB's opinion is that the reporting requirements would be greater under Option 1 than the "Do Nothing" scenario.

- d. Under Option 1, the new regulations would transpose from the Directive the obligations on the MAIB to investigate all marine casualties and incidents involving roll-on roll-off (ro-ro) ferries⁸ or High Speed Craft in UK waters and where not in a European Economic Area (EEA) Member State's waters but where the UK was the last port of call. For example, if a vessel leaves a UK port, and has an accident within another EEA state's waters, that state's accident investigators would begin an investigation, but if the accident happened in international waters, or in the waters of a non-EEA country, UK investigators would begin an investigation. This is the case for both Options 1 and 2.
34. Having updated their operational procedures following the introduction of the Directive, the MAIB currently now carry out all the requirements of the Directive. In particular, as stated within Article 5 of the Directive, the MAIB currently ensures that safety investigations are carried out for very serious marine casualties, and carries out preliminary assessments of all serious casualties. Whilst this is not currently a requirement of legislation, the current legislation gives the Chief Inspector the discretion to decide on which accidents to investigate. Furthermore, as stated within Article 17, the MAIB currently provides the Commission with data resulting from safety investigations in accordance with the European Marine Casualty Information Platform (EMCIP) database scheme. However, in order to assess the full impact of all changes required to implement the Directive, the costs and benefits of these updated procedures are included within the estimates below.

Option 2: Implement the requirements of the Directive where it exceeds existing UK requirements and retain some existing UK requirements where these exceed the requirements of the Directive.

35. This option implements the requirements of the Directive, while retaining but not increasing existing UK requirements for accidents in connection with the operation of a ship, where these exceed the scope of the Directive, namely for inland waterway vessels, fishing vessels under 15 metres in length and wooden ships of primitive build. The exact data required in an accident report would change across the MAIB's investigatory scope, including those outside the scope of the Directive; however, this would not be expected to impose a significant extra burden on these vessels.
- a. The scope in terms of the reporting requirements of Option 2 comprises elements of both the "Do Nothing" scenario and Option 1. Option 2 would retain the reporting requirements for inland waterway vessels, fishing vessels under 15 metres in length and wooden ships of primitive build (from the "Do Nothing" scenario), while also extending the reporting requirements to vessels involving substantial interests of the UK and operational accidents in ports or dockyards involving shore based workers, such as stevedores (as in Option 1) (see **Annex 2, Table 1**). This scope would give the MAIB the flexibility to investigate and report on the accidents it feels have the most to offer in terms of important lessons to prevent similar accidents happening again in future.
 - b. Under Option 2, the new regulations would transpose from the Directive the obligations on the MAIB to investigate all of the accident types Option 1 does, including high speed and ro-ro vessels, and retain the obligation to investigate accidents as directed by the Secretary of State for Transport (See **Annex 2 Table 2**). This would give DfT the flexibility to have accidents in which it has particular interest investigated without the need to set up the potentially very costly and lengthy process of a public enquiry. Having updated their operational procedures, it should be noted that the MAIB is already operationally compliant with the Directive.
 - c. Where the proposed scope of Option 2 exceeds the minimum requirements of the Directive, this would involve retaining existing UK requirements. Therefore, there would be no increase

⁸ See glossary in Annex 3

in reporting requirements on industry in the event of an accident and no increase in investigations over the “Do Nothing” scenario for inland waterway vessels, fishing vessels under 15 metres in length and wooden ships of primitive build. As covered above, the changes to data requirements are not expected to impose significant extra burdens on vessels outside the minimum scope the Directive.

COSTS AND BENEFITS

36. This impact assessment assesses the additional costs and benefits of the two options for UK implementation of the Directive relative to the Do Nothing scenario described above - the Do Nothing scenario is a scenario where the UK takes no action to implement the Directive. However, as explained above, it should be noted that, having already updated their operational procedures following the introduction of the Directive, the MAIB is already operationally compliant with the Directive. Therefore, it should be noted that some of the costs of UK implementation of the Directive have already been incurred and the associated benefits realised. This is discussed further below.
37. The costs and benefits that have been identified for each of the policy options are described below. However, it should be noted that it has not been possible to monetise some of these costs or benefits in this impact assessment due to the limitations of the available evidence base. Where a cost or benefit is not monetised in this impact assessment, a full qualitative description is provided.
38. Following advice from the Regulatory Policy Committee, the MAIB used the consultation to engage with business to develop a robust assessment of the costs to business of both options. The primary feedback that the MAIB received from industry is that there is effectively no difference in costs to industry between either of the two options considered, nor would there be additional costs compared to current arrangements. For example, the IUA, representing insurance companies throughout Europe, reported that “options 1 and 2 are similarly cost neutral, or have relatively small additional financial and administrative costs to government and/or business.”
39. Any other evidence or information that was received as part of the consultation has been taken into account below.
40. For the purposes of the analysis in this impact assessment, it has been assumed that the Regulations would be introduced at the beginning of 2012, given the uncertainty surrounding the precise timing of when the Regulations would be introduced.
41. As some of the costs and benefits of UK implementation of the Directive have already been incurred (see Paragraph 34), a 10 year appraisal period covering the period from 2011 to 2020 has been selected for the purposes of this impact assessment.

ASSUMPTIONS

42. When considering the costs and benefits of these policy options, there are two key factors that should be taken into account:
 - a. The MAIB has a fixed budget, and so it will not be able to increase costs, only try to absorb them within the budget constraints set by the 2010 Spending Review. Impacts will therefore be more likely to impact on the pace and depth of work than on the budget of the MAIB. If this is the case, there would be no additional financial costs to the government, but there may be impacts on how the MAIB directs its resources under the different options. For the purpose of this impact assessment, it is assumed that the opportunity cost of undertaking an activity is equal to the resource cost to the MAIB of undertaking the activity. Where possible, the resource costs to the MAIB have been estimated below and are included in the estimates shown on the ‘Summary: Analysis & Evidence’ sheets.
 - b. Expert advice from Seafish Economics (part of the Seafish Industry Authority) was very clear that time impacts of less than several hours at a time on fishing vessels would not be significant enough to affect a fishing vessel’s productivity, and therefore would not have a significant impact on the industry. In addition, in many cases (particularly VSMCs), as mentioned in the “Uncertainties” section below, the vessel being investigated is lost or laid up, so the skipper or reporting officer’s time would not come at the cost of time which could have

spent productively at sea. Furthermore, the MAIB also tries to minimise the cost to business incurred in their investigations. When a vessel is still able to profitably operate, there are often significant periods of time ashore or at sea when there is little activity with direct contributions to productivity, and familiarisation with the relevant regulations or guidance, or filling in accident report forms could be undertaken without affecting the overall output of the vessel.

43. The following assumptions have been made in this impact assessment to inform the assessment of the impacts of the two policy options on business:
44. With regards to the costs to business of taking part in MAIB investigations, it was confirmed, following consultation with industry, that the time impacts of accident investigation do not have any significant impacts on business. If an accident is serious enough to warrant investigation under the current regulations, the vessel is often laid-up or lost and therefore not productive, so no productive time is lost. When this is not the case, the MAIB makes it policy to not interfere with the operation of a ship or prevent witnesses from going about their business, either interviewing and taking evidence when ashore, or, if appropriate, while underway.
45. The majority of consultation responses identified no costs to industry of taking part in MAIB investigations between either of the two options considered. However, one response (Admiral Solicitors' Group) suggested that the restriction of access and opportunity for owners and their representatives to investigate will delay and hamper the resolution of commercial disputes. In addition, the response also suggested that there may be an increase in general costs for owners in terms of Court applications for essential documents. Given the limitations of the available base, it has not been possible to quantify these costs.
46. With regards to the costs to business of reporting accidents to the MAIB, it has been estimated that the Incident Report Form (IRF) currently takes between 7 and 15 minutes to complete in its current form on the basis of informal consultation with industry in advance of the formal consultation. For the purposes of this impact assessment, it has therefore been assumed that the IRF takes 7 to 15 minutes to complete, although it is noted that an online version of the form is due to be launched.
47. It is assumed that the requirement to report accidents to the MAIB has no significant impacts on the fishing industry. Expert advice given by Seafish during informal discussion indicated that the time impacts of the reporting requirements, which are estimated to be of a scale similar to the current time required to complete the IRF (7-15 minutes), could be absorbed without any significant economic impacts, due to the amount of time at sea when the vessel is working, but a skipper could safely fill out a report, combined with time ashore when these and other administrative requirements could be fulfilled. It is therefore assumed that industry will not allow either new or existing reporting requirements to impact on their productivity. However, the extent that this also applies in other maritime sectors is uncertain
48. For the under 15m fishing vessels sector, it is considered that the time required to fill out an IRF is not significant enough to impact on productivity and would be absorbed within current levels of non-productive time, so it is assumed that the impacts on business would be insignificant and that any impacts would fall on workers. Sensitivity analysis of this assumption has been presented in the costs and benefits section. For the inland waterways sector and wooden ships of primitive build, it has been assumed that the impacts would fall on business in the absence of any evidence to the contrary.
49. For the purposes of this impact assessment, the time required to complete the IRF has therefore been valued as follows. However, it should be noted that the value of this time is very uncertain.
50. Firstly, no evidence is currently available on the value of workers non-productive working time in the fishing sector. For the purposes of this impact assessment, it has been assumed that the estimate of the median hourly pay in marine fishing from the Annual Survey of Hourly Earnings (ASHE) 2010⁹ can be used as a proxy for the value of this time. The value of this was £7.51 per hour in 2010 prices, which is £7.74 per hour adjusted to 2011 prices. For the low and best estimates, no uplift to reflect non-pay labour costs has been applied to the wage rates as it assumed that the impacts would fall on the workers, not on the business. As sensitivity analysis

⁹ ONS ASHE survey 2010, SIC2007 Table 16.6a, <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-200444>

for this assumption, a 21% uplift to reflect non-pay labour costs has been included in the value of the time impacts for the high estimates¹⁰.

51. Secondly, no evidence is currently available on the value of productive working time in the inland waterways sector and for wooden ships of primitive build. For the purposes of this impact assessment, it has been assumed that the average pay in the 'Water Transport' sector, uplifted by 21% to account for non-pay labour costs, can be used as a proxy for the value of productive working time in the inland waterways sector and for wooden ships of primitive build. On the basis of the Annual Survey of Hourly Earnings (ASHE) 2010, median pay in the sector was £12.46 per hour in 2010 prices, which is £15.53 per hour adjusted to 2011 prices and uplifted by 21%.
52. The following additional assumptions have also been made in this impact assessment:
53. It has been assumed that other EEA states will comply with the Directive, inform and cooperate with the MAIB on accidents involving the substantial interests of the UK and contribute to the European Marine Casualty Information Platform to make this a valuable investigative and informational tool.
54. It has been assumed that the work of the MAIB has a positive impact on maritime safety. Anecdotally, lessons learnt and promulgated from MAIB investigations have influenced the behaviour of seafarers and fishermen to avoid accidents occurring and all recommendations are debated by the fishermen's federations at the Fishing Industry Safety Group (FISG), chaired by the Maritime and Coastguard Agency (MCA). This assumption was confirmed by a number of organisations during the consultation including the Scottish Fishermen's Federation, the Institute of marine Engineering, Science and Technology and the Shetland's Fishermen's Association.
55. An assumption has been made that the average cost of an investigation into a marine accident is £30,000 for the purpose of this impact assessment. This is based on an investigation which was carried out on behalf of another authority, and meticulously itemised¹¹. However, every marine accident is unique and there is no 'representative' investigation, so this is subject to a large degree of uncertainty.

Uncertainties

56. There is a high degree of uncertainty surrounding the scale of the costs and benefits of these policy options to the UK. Reasons for this include:
 - a. **Lack of repeatable parameters.** As covered in the Assumptions section, there is no 'representative' marine accident investigation, so the assumed average cost of £30,000 per investigation is subject to a large degree of uncertainty.
 - b. **Uncertainty surrounding accident costs.** The costs of accidents are very uncertain, with the most significant accident costs arising due to the largest and most destructive accidents, which may occur only once a decade. Since these accidents occur very infrequently, there is a lack of frequency data and examples, such as the FV Trident and the Marchioness, have been used for illustrative purposes.
 - c. **Uncertainty surrounding the costs to industry of investigations.** While industry partners have been consulted on the time taken to report accidents, yielding estimates of this aspect of accident investigation, no evidence is available that would enable the costs to the industry once the MAIB arrives 'in the field' to be quantified. Nonetheless, if an accident is serious enough to warrant investigation under the current regulations, the vessel is often laid-up or lost, so no productive time is lost. When this is not the case, the MAIB makes it policy to not interfere with the operation of a ship or prevent witnesses from going about their business, either interviewing and taking evidence when ashore, or, if appropriate, while underway.
 - d. **Uncertainty surrounding the value of time.** Expert advice from Seafish Economics was very clear that time impacts less than several hours at a time on fishing vessels would not be

¹⁰ WebTAG unit 3.5.6, *Value of Time and Operating Costs* <http://www.dft.gov.uk/webtag/documents/expert/unit3.5.6.php>

¹¹ This estimate relates to an investigation undertaken in 2007. However, no evidence is available on how the cost of a typical investigation has changed since 2007. Therefore, for the purposes of this impact assessment, it has been assumed that the cost of an investigation has not changed over this period.

significant enough to affect a fishing vessel's productivity, as covered in paragraph 42. However, the extent that this also applies in other maritime sectors is uncertain.

- e. **Uncertainty surrounding the number of vessels involving the substantial interests of the United Kingdom.** 'Substantial Interest' is a very broad concept and one which is novel. It is not yet known how many accidents the UK will be substantially interested in, nor where these accidents may be. The IMO produce guidance on the meaning of 'substantial interest' (see **Annex 3**). From this definition, it is difficult to estimate how often the UK will be deemed to have a substantial interest. For example, if there were an accident involving a ferry registered in *Country X* in *Country X's* waters, which injured UK nationals, this would be grounds for establishing a UK substantial interest. The unenforceability of UK legislation in this case, would mean the UK would be relying on *Country X* to report, which they may or may not do. The scale of the task involved in monitoring shipping worldwide for casualties which may establish a UK substantial interest is impossibly large, but Article 5 of the IMO Code does oblige other flag states to inform the UK where the UK might have a substantial interest. The MAIB will have to rely on the compliance of other States with the IMO Code to hear about such accidents, but not all states diligently comply with the requirements of the Code. As such, it is not possible to produce a robust estimate of the number of accidents and incidents to vessels involving the substantial interests of the United Kingdom.
- f. **Uncertainty surrounding the impacts on UK businesses.** Many UK registered (flagged) vessels are not owned by UK firms, and many UK firms own vessels not registered in the UK. Furthermore, many of the vessels operating within UK waters are neither UK registered nor UK owned, but report accidents occurring in UK waters or international waters where the journey originated in the UK to the MAIB. It is therefore very uncertain what proportion of the impacts on business would fall on UK businesses as there is a possibility that impacts covered in this Impact Assessment would fall on both UK and non-UK businesses. In the absence of any evidence on the split between UK and non-UK businesses, the estimates presented in this Impact Assessment reflect the impacts on all businesses when it has been possible to monetise such costs or benefits. However, it is noted that the proportion of the costs and benefits to business that would fall on UK businesses is uncertain.
- g. **Uncertainty surrounding the scale of the effects of MAIB investigations.** It is not possible to quantify the benefit of an investigation in terms of accidents avoided. Anecdotally, lessons learnt and promulgated from MAIB investigations have influenced the behaviour of seafarers and fishermen to avoid accidents occurring and all recommendations are debated by the fishermen's federations at the Fishing Industry Safety Group (FISG), chaired by MCA. However, there is no record or reporting mechanism for estimating the number of accidents avoided due to the MAIB. It is therefore not possible to isolate, quantify or monetise the MAIB's contribution to the safety improvements in the UK's merchant shipping and fishing industries. Nonetheless, there was widespread agreement from consultees that MAIB reports and recommendations improve safety.

Costs and Benefits of Option 1

Costs to the MAIB under Option 1

57. The MAIB would face increased budgetary pressure under this option. The MAIB has already reduced administrative costs and staff numbers. Further increases in investigative costs could be unsustainable and make it difficult to maintain the MAIB's current high standards of investigation. There is a risk that these extra costs could have to be borne by the DfT through contingency funding. It should be noted that the additional costs to the MAIB or DfT under Option 1 would not be passed on to businesses.
58. Each of the additional costs to the MAIB under Option 1 is discussed in detail below.
59. Firstly, the MAIB would need to **process reports** of accidents involving additional types of vessels that would be required to report accidents under Option 1 (see **Annex 2**), particularly vessels involving the Substantial Interests of the United Kingdom, which may be of any flag. The MAIB would also need to process reports of accidents involving stevedores, or accidents happening in UK dockyards. However, there is no evidence currently available on the number of such accident reports that would be submitted to the MAIB. Therefore, it has not been possible to monetise this cost in this impact assessment.

60. Secondly, the MAIB would need to undertake **additional investigations**, due to the obligation to investigate every VSMC, some SMCs of UK flagged vessels (which could happen anywhere in the World), and all accidents involving ro-ro ferries or High Speed Craft, within the scope described in the Options section, leading to increased travel costs for inspectors and associated costs of publication of reports and administrative support. This would involve the investigation of accidents which are ‘technical’ VSMCs, such as the sinking of an unmanned barge at its moorings, along with the production of a report of a minimum length, as mandated by the Directive. It should be noted that as operational procedures at the MAIB have already been updated to comply with the requirements of the Directive, some of these costs have already been incurred. The MAIB receives many reports of casualties which are technically VSMCs, but which bring very few, if any, safety lessons. It is expected, based on analysis of MAIB statistics that there may be between 11 and 44 extra VSMCs that the MAIB would have to investigate each year, based on the minimum and maximum annual figures of the accidents which would have counted as VSMCs, but were not investigated by the MAIB in the period 1991-2009. The average over the period was 23 per year, which is used as the Best estimate. Based on a previous MAIB investigation, it is assumed that each investigation would cost approximately £30,000. Therefore, it is estimated that this change would increase the burden on the MAIB by around £330,000 to £1.3 million per year, with a Best estimate of around £690,000 per year. The present value of this cost over the 10 year appraisal period is estimated at around £2.8 million to £11.4 million at a discount rate of 3.5%, with a Best estimate of around £5.9 million. However, there would also be the new requirement to **investigate accidents involving vessels involving the substantial interests of the United Kingdom**. There is no evidence currently available on the increase in the number of accident investigations that would result from this change. Therefore, it has not been possible to fully monetise this cost in this impact assessment.
61. The **MAIB would need to familiarise itself and adapt to the *European Marine Casualty Information Platform***, a database set up by the European Commission which the Directive requires member states to contribute data to, which is incompatible with current UK systems and which is necessitating the construction of a wholly new system to replace the existing one. There would be costs and staff time involved in the development, training and familiarisation processes for the new database. If it does not transpose the Directive, the UK would not have access to the database.
- a. The capacity needed to develop the database has been estimated as one pay band 5 and 0.8 pay band 3 officials from the DfT for six months, and 0.6 pay band 6, 0.2 pay band 4, 0.2 pay band 3 and 0.1 pay band 2 officials from the MAIB, also for six months. Including an uplift of 21% to account for non-pay labour costs, the value of this staff time has been estimated, based on DfT pay scales¹², at a one-off cost of around £125,000 to £151,000, with a Best estimate of around £138,000 (the mid-point of the range). This is an illustrative estimate of the resource required, which would be absorbed within existing budgets. It should be noted that as the development of the database is already underway, some of these costs have already been incurred.
 - b. Furthermore, the European Maritime Safety Agency (EMSA) uses a method of analysing marine casualties relying on multiple ‘causal factors’ which is fundamentally incompatible with the UK’s well-established method of ‘involving trees’. It would take time for the MAIB to adjust to this new method. There would also be wider **familiarisation costs** for the MAIB, which reflect the need to learn the **new reporting requirements** and update its procedures accordingly. Based on the distribution of work across grades, the familiarisation time required has been estimated by the MAIB as being 18 hours of time at pay band 7, 28 hours of time at pay band 6, 2 hours of time at pay band 5, 2 hours of time at pay band 4, 4 hours of time at pay band 3 and 10 hours of time at pay band 2. When this time is valued, based on pay ranges in DfT pay bands¹³, and uplifted by 21% to account for non-pay labour costs, the value of this staff time has been estimated at around £2,100 to £2,400, with a Best Estimate of around £2,300 (the mid-point of the range, these estimates have been rounded to nearest hundred pounds); this is a one-off cost. The extra burden would be absorbed within the MAIB’s existing budget.

¹² *Data.gov.uk, Organogram and Staff Pay Data for the Department for Transport*. <http://data.gov.uk/dataset/organogram-dft>

¹³ *Data.gov.uk, Organogram and Staff Pay Data for the Department for Transport*. <http://data.gov.uk/dataset/organogram-dft>

Other costs to Government under Option 1

62. Wider Government would be likely to face increased costs from **setting up and conducting formal enquiries**, where the MAIB would not investigate certain accidents which are out of scope, but the government still demands an explanation. Setting up and conducting a formal inquiry would be significantly more costly than an MAIB investigation. For example, the formal enquiry into the loss of FV Trident with all hands in 1974 (which was before the MAIB's existence) has cost the taxpayer around £7.8 million. An MAIB investigation into a similar accident could be expected to cost around £30,000, based on a previous MAIB investigation, and would be likely to satisfy interested parties. Given the uncertainty surrounding the nature of future enquiries under Option 1, the level of this cost is very uncertain. It has therefore not been possible to monetise this cost in this impact assessment.

Costs to Industry under Option 1

63. Certain sectors of industry could face additional costs as a result of the changes proposed in Option 1. These costs would stem from:
- a. The **lack of accident investigation reports** aimed at reducing fatalities, or vessel loss and damage through the prevention of similar accidents in the future. Removing Inland waterways vessels, fishing vessels under 15m in length and wooden ships of primitive build from the MAIB's scope of investigations leaves a very significant proportion¹⁴ of accidents (see Table 1), incidents and fatalities outside the scope of investigation. As accident investigation reports can be a factor in avoiding future accidents of a similar nature, avoidable accidents occurring in future are considered to be the main cost of Option 1. For example, the MAIB recently investigated the death of a young girl at an outdoor pursuits centre and will shortly be promulgating salient lessons learned, which should help prevent similar deaths in future. This accident would not be investigable by the MAIB under Option 1 (as the vessel in question was an inland waterways vessel) and these lessons learned would not be promulgated industry-wide, possibly failing to prevent similar incidents in future. Avoiding accidents can be seen by this example to not only be a benefit to the industry, but also be benefit to society through avoiding injuries or fatalities to bystanders, passengers, etc. Due to a lack of evidence on the relationship between in depth reports and future accidents avoided, it has been not been possible to quantify or monetise this cost in this impact assessment. Nonetheless, consultees noted that Option 1 would have a negative safety impact: a number of consultees were disturbed at the potential safety consequences of Option 1.
 - b. The **administrative effort required to report accidents involving the additional vessel types (including pleasure vessels hired on a bareboat basis) and stevedores, etc.** The MAIB considers that this new burden would be particularly acute for vessels not flying the UK flag and not in UK waters, but which involve the substantial interests of the UK. An example would be a foreign-flagged cruise ship in foreign waters, carrying UK nationals. A case involving the death of a UK cruise passenger in just such a situation occurred only recently. These accidents, in which the UK has substantial interest, have only recently started coming to the MAIB's attention due to increased international cooperation in the run up to the commencement of the Directive. Due to a lack of an evidence base, it is not currently possible to estimate the frequency of these types of accidents. Furthermore, how much of this burden would be mitigated by the investigating state making the report is also uncertain due to a lack of precedence. Therefore, it has not been possible to monetise this cost in this impact assessment. However, as it has been assumed that completing an IRF currently takes between 7 and 15 minutes to complete, it is considered that the increased time needed to file reports for different types of accidents is not likely to result in significant costs to industry.
 - c. The **administrative effort required to report the extra types of accidents.** Due to a lack of an evidence base, it is not currently possible to estimate the frequency of these types of accidents. Therefore, it has not been possible to monetise this cost in this impact assessment. However, considering the relatively short time required to complete the IRF, it is considered that the increased time needed to file reports for different types of accidents is not likely to result in significant costs to industry.
 - d. **Familiarisation costs.** Some businesses may incur familiarisation costs due to the need for operators to familiarise themselves with the new legislation. However, it should be noted that

¹⁴ Inland waterways vessels and <15m Fishing vessels have accounted for 41% of operational accidents on average between 1991 and 2010, with a range between 32% and 49%.

no evidence is currently available on this issue. Therefore, this cost has not been monetised for the purpose of this assessment as both the time that it would take to familiarise and train employees, and the number of businesses that would need to do this, are uncertain.

- e. The **attendance at, and presentation of evidence to, formal enquiries** to investigate accidents that would not be investigated by the MAIB, such as for the Marchioness, an inland waterways vessel involved in an accident in 1989 which led to a large loss of life, a situation which would be out of scope under Option 1. Formal enquiries into marine casualties are rare, but where they have taken place, such as the enquiry into the loss of FV Trident with all hands in 1974 (which was before the MAIB's existence), they take years and require attendance at hearings and extensive legal counsel. This impact has not been monetised due to the uncertainty of these incidents happening, and the very significant range of possible costs to industry. It is considered, however, that there would be significant cost and time impacts on those firms or individuals affected.
- f. The **administrative effort required to report the additional data required by the MAIB**. It is the view of the MAIB that the impact of requiring the new data to be reported on the accident report form would be offset by the impact of the removal of the requirement to report some of the data which is currently required to be reported on the form and would no longer be required to be reported under either Options 1 or 2, and that there would therefore be a zero net cost of changing the data required to be reported on the IRF under Options 1 and 2. The current Incident Report Forms (IRF) can be found on the MAIB website¹⁵, and a comparison of the data that is required to be reported to the MAIB can be found at **Annex 4**. It is worth pointing out that the IRF currently in use has already been modified to take account of the data that is required to be reported in the Directive, although not all fields in the IRF are currently legally required and some are optional. A number of the new requirements are currently in these optional fields, and are often submitted.
- g. There may be a **new burden in terms of the time spent giving testimony and evidence** to the MAIB for certain vessel types, particularly vessels involving the substantial interests of the UK. No evidence is currently available on the time associated with giving testimony and evidence to the MAIB. Therefore, it has not been possible to monetise this cost. Nonetheless, it is not expected that this cost would have a significant impact on the sector economically, as the MAIB makes it policy not to prevent a mariner from going to sea as long as the vessel is seaworthy. In the majority of cases where evidence is required by the MAIB, the vessel is laid up or lost, so it would not represent productive time.

Benefits to the MAIB under Option 1

64. The MAIB would no longer need to **investigate accidents related to fishing vessels under 15m in length, inland waterway vessels and wooden ships of primitive build** (See **Annex 2, Table 1**). As fishing vessels under 15m in length and inland waterways vessels consistently form a large proportion of marine accidents¹⁶, this would allow some of the MAIB's scarce resources to be redeployed to other investigations. There has been an average of 8 investigations per year involving fishing vessels under 15m and an average of 2 investigations per year involving inland waterways vessels, out of an average of 61 investigations per year in total. Wooden ships of primitive build do not often raise investigations due to their relative scarcity, and therefore have not been included in the estimates. Therefore, assuming 10 investigations would be avoided per year and a cost per investigation of £30,000, the cost saving to the MAIB is estimated at around £300,000 per year, commencing in 2012. The present value of this benefit over the 10 year appraisal period is estimated at around £2.3 million at a discount rate of 3.5%. These estimates represent the Best estimates. The minimum and maximum number of investigations recorded per year in the two sectors between 1989 and 2011 have been used to produce a High and Low range of estimates. On this basis, the value of this benefit is estimated at around £120,000 (Low) to £690,000 (High) per year, based on 4 investigations avoided and 23 investigations avoided respectively, and the present value of this benefit over the 10 year appraisal period has been estimated at around £0.9 million (Low) to £5.2 million (High).
65. The MAIB would **no longer have to process reports involving certain types of accidents** under Option 1, namely accidents involving only fishing vessels under 15m in length, inland

¹⁵ The current IRF can be accessed at http://www.maib.gov.uk/cms_resources.cfm?file=/Print_IRF.pdf.

¹⁶ Inland waterways vessels and <15m Fishing vessels have accounted for 41% of operational accidents on average between 1991 and 2010, with a range between 32% and 49%.

waterways vessels or wooden ships of primitive build. This would allow the MAIB to reallocate some officers to another area of the MAIB. It is foreseen that that 0 to 1 investigation support officers out of a team of four could be redeployed to the publications team to produce more full length reports, providing more in depth analysis on the lessons which could be learnt from the accidents which are continuing to be reported. Based on DfT pay ranges, the staff time of these officers is estimated at between around £24,000 and £28,000 per officer per year (this is based on pay rates which have been uplifted by 21% to account for non-pay labour costs). Therefore, the benefit of this reallocation has been estimated at between around £0 and £28,000 per year commencing in 2012, with a Best Estimate of around £13,000 per year (representing 0.5 investigation support officers being redeployed (the mid point of the range) and the mid point of the pay scales), and the present value of this benefit over the 10 year appraisal period has been estimated at around £0 to £215,000 at a discount rate of 3.5%, with a Best Estimate of around £98,000.

66. The MAIB would have access to and be familiar with the ***European Marine Casualty Information Platform***, which is likely to become a **valuable and cost-effective information resource** for investigating marine accidents. If it does not transpose the Directive, the UK would not have access to the database. This benefit has not been monetised as no quantitative evidence on the benefits of having access to the database is currently available.

Benefits to Industry under Option 1

67. There would be the **promulgation, by the MAIB, of lessons learned** from accidents which are not reportable and not investigable under the “Do Nothing” Scenario, including accidents involving shore based workers, stevedores and accidents occurring in ports, harbours and boatyards, which may prevent future similar accidents from occurring. It has not been possible to monetise this benefit, due to a lack of evidence on the accidents that have been avoided due to MAIB reports and uncertainties around the scale of the average accident, as explained in the ‘Uncertainties’ section. Nonetheless, there was widespread agreement from consultees that MAIB reports and recommendations improve safety.
68. There would be a **reduction in requirements to report accidents to certain vessel types** (e.g. fishing vessels under 15m in length, inland waterway vessels, wooden ships of primitive build) from 2012. The MAIB receives many reports of accidents to fishing vessels under 15m in length (see **Table 1**), particularly involving small single-handed craft. As mentioned previously, the IRF is assumed to take between 7 and 15 minutes to complete.
- a. In the absence of any evidence on the labour costs of those working on inland waterways vessels or wooden ships of primitive build, it is assumed that labour costs in the ‘Water Transport’ sector are a suitable proxy for the labour costs of workers involved in reporting accidents involving these vessels.
 - b. Data from the Annual Survey of Hourly Earnings (ASHE) 2010 indicates that the median hourly pay for workers in the Water Transport sector (excluding overtime) was £12.46 per hour (2010 prices). When inflated to 2011 prices and uplifted by 21% to account for non-wage labour costs, labour costs in the Water Transport sector are estimated at £15.53 per hour (2011 prices).
 - c. In the absence of any evidence on the value of workers non-productive working time in the fishing sector, it is assumed that median hourly pay can be used as a proxy for the value of this time.
 - d. The cost of the time impacts of reporting accidents in the fishing sector are based on the estimate of the median hourly pay for marine fishing from the 2010 ASHE survey,. This is equal to £7.74 per hour in 2011 prices. This estimate, without being uplifted to reflect non-pay labour costs, is used as the best estimate and low estimate, considering expert advice from Seafish indicating that productivity would not be affected in the fishing sector and the assumption that therefore the impacts would fall on workers, not business. The high estimate includes this uplift 21% to reflect non-pay labour costs as a sensitivity analysis.
 - e. On this basis, the cost of each accident report for the inland waterways sector and wooden ships of primitive build is estimated at between £1.81 (if it were to take 7 minutes to complete the IRF) and £3.88 (if it were to take 15 minutes to complete the IRF), with a Best estimate of £2.84 (the mid-point of the range). The cost for the <15m fishing sector is estimated to be between £0.90 and £2.34, with a best estimate of £1.42 per accident.

- f. It is assumed that the numbers of accident reports made in each year of the appraisal period will be equal to the average numbers of accident reports made each year by inland waterways vessels, wooden ships of primitive build and fishing vessels under 15 metres in length in the period between 1991 and 2010 for the best estimate. The low estimate is based on the lowest number of accident reports in any year over the period, and the high estimate is based on the highest number of accident reports in any year between 1991 and 2010.

	High	Low	Best Estimate
Assumed annual accidents in the inland waterways and wooden ships of primitive build sectors	84	8	35.65
Assumed annual accidents in the <15m fishing vessels sector	518	227	343

- g. On the basis of the above assumptions, the benefit for the inland waterways and wooden ships of primitive build sectors is estimated at between around £14 and £326 per year, with a Best estimate of around £102, and the benefit for the fishing sector is estimated at around £205 and £1,213 per year, with a Best estimate of around £487. The total annual benefit is therefore estimated at between around £219 and £1,540 per year, with a Best estimate of around £588 per year, commencing in 2012.
- h. After discounting this benefit over the 10 year appraisal period with a discount rate of 3.5%, the present value of this benefit is estimated at between around £1,670 and £11,712, with a Best estimate of around £4,475. As the appraisal period begins in 2011 and this benefit commences in 2012, it should be noted that benefit only arises in the last 9 years of the appraisal period.
69. There may be **a reduction in the time spent giving testimony and evidence to the MAIB** for certain vessel types. No evidence is currently available on the time associated with giving testimony and evidence to the MAIB. Therefore, it has not been possible to monetise this benefit. Nonetheless, it is not expected that this benefit would have a significant impact on the sector economically, as the MAIB makes it policy not to prevent a mariner from going to sea as long as the vessel is seaworthy. In the majority of cases where evidence is required by the MAIB, the vessel is laid up or lost, so it would not represent productive time. Consultees noted that time would be saved by not having to give testimony and evidence to MAIB for accidents occurring on vessels outside the scope of the Directive. However, consultees noted that these time-saving benefits would be far outweighed by the costs of reduced safety at sea for vessels outside the scope of the Directive.

Benefits to the environment under Option 1

70. As part of the changes in the Regulations, firms and individuals would be legally required to report any accidents involving major pollution or severe damage to the environment or incidents which could potentially lead to major pollution or severe damage to the environment. Those reporting accidents would also be required, for the first time, to specifically report what pollution effects have been caused by the accident. These changes may help to **prevent future damage to the environment** through accidents of a similar nature occurring by informing seafarers of how to avoid similar situations and errors in the future. However, no evidence is currently available on the impacts that this would have on the environment. Therefore, it has not been possible to monetise this benefit. This benefit would also arise under Option 2.

Table 2: Summary Table of Monetised Costs and Benefits in Option 1

Costs	Affected Party	Period assessed (years)	Low Estimate (£m)	High Estimate (£m)	Best Estimate (£m)
Development of EMCIP compatible database	MAIB/DfT	1	0.12	0.15	0.14
Familiarisation costs	MAIB/DfT	1	0.00	0.00	0.00
Additional investigations into VSMCs (PV 2011)	MAIB	10	2.84	11.36	5.94
TOTAL	-	-	2.97	11.52	6.08

Benefits	Affected Party	Period assessed (years)	Low Estimate (£m)	High Estimate (£m)	Best Estimate (£m)
Reduced reporting requirements (PV 2011)	<15m fishing vessels, inland waterways vessels and wooden ships of primitive build	10	0.00	0.01	0.00
No longer processing reports from sectors no longer required to report accidents (PV 2011)	MAIB	10	0.00	0.21	0.10
Reduced investigations into <15m fishing vessels and inland waterways vessels (PV 2011)	MAIB	10	0.91	5.25	2.28
TOTAL	-	-	0.91	5.48	2.39

Net Benefit (£m)			Low (low benefits – high costs)	High (high benefits - low costs)	Best Estimate (best estimate benefits - best estimate costs)
			-10.60	2.51	-3.69

Costs and Benefits of Option 2

Costs to the MAIB and Government under Option 2

71. The MAIB would face increased budgetary pressure under this option. The MAIB has already reduced administrative costs and staff numbers. Further increases in investigative costs could be unsustainable and make it difficult to maintain the MAIB's current high standards of investigation. There is a risk that these extra costs could have to be borne by the DfT through contingency funding. It should be noted that the additional costs to the MAIB or DfT under Option 2 would not be passed on to businesses.

72. Each of the additional costs to the MAIB under Option 2 is discussed in detail below:
73. Firstly, the MAIB would need to **process reports** of accidents involving additional types of vessels that would be required to report accidents under Option 2 (see **Annex 2**), particularly vessels involving the Substantial Interests of the United Kingdom, which may be of any flag. The MAIB would also need to process reports of accidents involving stevedores, or accidents happening in UK dockyards. However, there is no evidence currently available on the number of such accident reports that would be submitted to the MAIB. Therefore, it has not been possible to monetise this cost in this impact assessment.
74. Secondly, the MAIB would need to undertake **additional investigations**, due to the obligation to investigate every VSMC, some SMCs of UK flagged vessels (which could happen anywhere in the World), and all accidents involving ro-ro ferries or High Speed Craft, within the scope described in the Options section, leading to increased travel costs for inspectors and associated costs of publication of reports and administrative support. It should be noted that as operational procedures at the MAIB have already been updated to comply with the requirements of the Directive, the MAIB have already incurred some of the additional costs associated with investigating these additional accidents. As in Option 1, it is estimated that this change would increase the burden on the MAIB by around £330,000 to £1.3 million per year, with a Best estimate of around £690,000 per year. The present value of this cost over the 10 year appraisal period is estimated at around £2.8 million to £11.4 million at a discount rate of 3.5%, with a Best estimate of around £5.9 million. However, there would also be the new requirement to **investigate accidents involving vessels involving the substantial interests of the United Kingdom**. There is no evidence currently available on the increase in the number of accident investigations that would result from this change. Therefore, it has not been possible to fully monetise this cost in this impact assessment.
75. The **MAIB would need to familiarise itself and adapt to the *European Marine Casualty Information Platform***, a database set up by the European Commission which the Directive requires member states to contribute data to, which is incompatible with current UK systems and which is necessitating the construction of a wholly new system to replace the existing one. There would be costs and staff time involved in the development, training and familiarisation processes for the new database. If it does not transpose the Directive, the UK would not have access to the database. It should be noted that as the development of the database is already underway, some of these costs have already been incurred.
- a. As in Option 1, the one-off cost of developing the database has been estimated at around £125,000 to £151,000, with a Best estimate of around £138,000 (the mid-point of the range).
 - b. As in Option 1, the familiarisation cost has been estimated at around £2,100 to £2,400, with a Best Estimate of around £2,300 (the mid-point of the range); this is a one off cost

Costs to Industry under Option 2

76. Industry would face some increased administrative requirements under this option, stemming from:
- a. The **administrative effort required to report accidents involving the additional vessel types and stevedores, etc.** The MAIB considers that this new burden would be particularly acute for vessels not flying the UK flag and not in UK waters, but which involve the substantial interests of the UK. These accidents, in which the UK has substantial interest, have only recently started coming to the MAIB's attention due to increased international cooperation in the run up to the commencement of the Directive. Due to a lack of an evidence base, it is not currently possible to estimate the frequency of these types of accidents. Furthermore, how much of this burden would be mitigated by the investigating state making the report is also uncertain due to a lack of precedence. Therefore, it has not been possible to monetise this cost in this impact assessment. However as it has been assumed that reporting an accident only takes between 7 and 15 minutes to complete, it is considered that the increased time needed to file reports for different types of accidents is not likely to result in significant costs to industry.
 - b. The **administrative effort required to report the extra types of accidents.** Due to a lack of an evidence base, it is not currently possible to estimate the frequency of these types of accidents. Therefore, it has not been possible to monetise this cost in this impact assessment. However, considering the relatively short time required to complete the IRF, it is

considered that the increased time needed to file reports for different types of accidents is not likely to result in significant costs to industry. There would be no increased burden for fishing vessels under 15 metres in length, inland waterways vessels or wooden ships of primitive build, as they are outside the minimum scope of the Directive and would not be required to report additional accident types.

- c. **Familiarisation costs.** Some businesses may incur familiarisation costs due to the need for operators to familiarise themselves with the new legislation. 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 uncertain.
- d. **Reporting the additional data required by the MAIB.** It is the view of the MAIB that the impact of requiring the new data to be reported on the accident report form would be offset by the impact of the removal of the requirement to report some of the data which is currently required to be reported on the form and would no longer be required to be reported under either Options 1 or 2, and that there would therefore be a zero net cost of changing the data required to be reported on the IRF under Options 1 and 2. Changes to the data that is required to be reported to the MAIB would be applicable across the MAIB's investigatory scope, including fishing vessels under 15m in length, inland waterways vessels and wooden ships of primitive build. The current Incident Report Forms (IRF) can be found on the MAIB website, and a comparison of the data that is required to be reported to the MAIB can be found at **Annex 4**. It is worth pointing out that the IRF currently in use has already been modified to take account of the data that is required to be reported in the Directive, although not all fields in the IRF are currently legally required and some are optional. A number of the new requirements are currently in these optional fields, and are often submitted.
- e. There may be a **new burden in terms of the time spent giving testimony and evidence** to the MAIB for certain vessel types, particularly vessels involving the substantial interests of the UK. No evidence is currently available on the time associated with giving testimony and evidence to the MAIB. Therefore, it has not been possible to monetise this benefit. Nonetheless, this is not expected that this benefit would have a significant impact on the sector economically, as the MAIB makes it policy not to prevent a mariner from going to sea as long as the vessel is seaworthy. In the majority of cases where evidence is required by the MAIB, the vessel is laid up or lost, so it would not represent productive time. This burden is not applicable to those outside the minimum scope of the Directive, including fishing vessels under 15m in length and inland waterways vessels, as the requirements for those sectors would remain the same as in the "do nothing" scenario.

Benefits to the MAIB and Government under Option 2

77. The MAIB would have access to and be familiar with the ***European Marine Casualty Information Platform***, which is likely to become a **valuable and cost-effective information resource** for investigating marine accidents. This benefit has not been monetised as there is no evidence base for how much this database can save costs or increase the effectiveness of the MAIB.

Benefits to Industry under Option 2

78. There would be the **promulgation, by the MAIB, of lessons learned** from accidents which are not reportable and not investigable under the "Do Nothing" Scenario, including accidents involving shore based workers, stevedores and accidents occurring in ports, harbours and boatyards, which may prevent future similar accidents from occurring. It has not been possible to monetise this benefit, due to a lack of evidence on the accidents that have been avoided due to MAIB reports and uncertainties around the scale of the average accident, as explained in the 'Uncertainties' section. Nonetheless, there was widespread agreement from consultees that MAIB reports and recommendations improve safety.

Benefits to the Environment under Option 2

79. As in Option 1, as part of the changes in Regulations, firms and individuals would be legally required to report any incidents which could lead to, or accidents involving major pollution or severe damage to the environment. These changes may help to **prevent future damage to the environment** through accidents of a similar nature occurring by informing seafarers of how to avoid similar situations and errors in the future. However, no evidence is currently available on

the impacts that this would have on the environment. Therefore, it has not been possible to monetise this benefit.

Table 3: Summary Table of Monetised Costs and Benefits in Option 2

Costs	Affected Party	Period assessed (years)	Low Estimate (£m)	High Estimate (£m)	Best Estimate (£m)
Development of EMCIP compatible database	MAIB/DfT	1	0.12	0.15	0.14
Familiarisation costs	MAIB/DfT	1	0.00	0.00	0.00
Additional investigations into VSMCs (PV 2011)	MAIB	10	2.84	11.36	5.94
TOTAL	-	-	2.97	11.52	6.08

Benefits	Affected Party	Period assessed (years)	Low Estimate (£m)	High Estimate (£m)	Best Estimate (£m)
TOTAL	-	-	NQ	NQ	NQ

Net Benefit (£m)			Low (low benefits - high costs)	High (high benefits - low costs)	Best Estimate (best estimate benefits - best estimate costs)
			-11.52	-2.97	-6.08

RISKS

80. There are certain risks associated with both policy options which are not present under the “Do Nothing” scenario. The obligation to investigate all very serious marine casualties leaves the MAIB very vulnerable to an unexpected increase in marine accidents. For example, if there was an unusual weather event in which many ships were lost, the MAIB would be under the legal obligation to investigate each case, unless there was good reason to delegate responsibility to other EU member states. This could be undeliverable within fixed budget constraints or possibly impact on DfT’s budget if contingency funding was provided. The scale of these costs is very uncertain. Therefore, it is has not been possible to quantify them. It should be noted that any costs to the MAIB or DfT would not be passed on to businesses.
81. This risk of maintaining high report standards that promulgate the most effective lesson learned to industry is linked strongly with the ability of MAIB to manage its fixed resources. Both policy options require the MAIB to investigate very serious marine casualties involving vessels within the scope of the Directive. Both policies offset this risk by the ability of the Chief Inspector to carry out a simplified report of a very serious marine casualty if that investigation contains very few lessons to be learned. For example, the sinking of an old unoccupied dingy in a harbour.
82. Option 2 allows the MAIB to investigate a wider scope of vessels involved in accidents than Option 1 however the MAIB consider that the risk described above is not greater for Option 2. This risk is offset firstly by the discretion of the Chief Inspector to investigate accidents involving

vessels outside the scope of the Directive. This discretion to investigate, combined with the ability to order simplified reports will allow the MAIB to effectively manage its resources and maintain its investigative standards. Secondly, many accidents involving vessels outside of the scope of the Directive can have far better lessons to be learned than some accidents involving very serious marine casualties whether within or outside the scope of the Directive. The ability to report on these accidents will ensure that the most critical lessons learned are promulgated to the maritime industry.

ONE-IN-ONE-OUT (OIOO) CONSIDERATIONS

83. Option 1

- a. As it is an EU measure and would not involve going beyond the minimum EU requirements, Option 1 is considered to be out of scope of OIOO.
- b. However, it should be noted that it is regarded that revoking the requirements of existing UK legislation which go beyond the requirements of the Directive under Option 1 would result in a net cost to business.
- c. The key change from revoking these requirements is that accidents involving fishing vessels under 15 metres in length, inland waterways vessels, or wooden ships of primitive build would no longer need to be reported to the MAIB and the MAIB would no longer investigate such accidents.
- d. Whilst it has not been possible to monetise all of the costs and benefits to business of this change, it is the opinion of the MAIB that the costs to business of no longer having investigations of accidents involving these vessels publically carried out by the MAIB would exceed the value of the benefits to business.
- e. For example, the reduced investigatory scope of the MAIB would be expected to lead to an increase in burdens on business from formal enquiries into marine accidents which would have previously been the responsibility of the MAIB to investigate. These enquiries would have time requirements on members of the maritime industry to present testimony and evidence. This would be expected to take days at a time, rather than minutes. It is considered that these time impacts would not be as likely to be absorbable in current time schedules, and could lead to significant costs by impacting on a vessel's productivity.
- f. On the basis of the assumptions made in this impact assessment, the best estimates of benefits to businesses in the inland waterways and wooden ships sectors that it has been possible to monetise are estimated to be insignificant. Furthermore, the benefits to businesses in the under 15m fishing vessels sector are assumed to be insignificant, as the regulatory change is not expected to affect the productivity of the fishing vessels, as discussed in the Costs and Benefits section.
- g. It is therefore regarded that revoking the requirements of existing UK legislation which go beyond the requirements of the Directive under Option 1 would result in a net cost to business. However, it should be noted that there is insufficient evidence to monetise this net cost.
- h. Consultees noted that time would be saved by not having to give testimony and evidence to MAIB for accidents occurring on vessels outside of the scope of the Directive. However, consultees noted that these time-saving benefits would be far outweighed by the costs of reduced safety at sea for vessels outside the scope of the Directive.

84. Option 2

- a. The additional costs and benefits to business that would arise as a result of the EU requirements would not be within the scope of OIOO.
- b. Whilst there is a domestic element to the proposed Regulations which affects fishing vessels under 15 metres in length, inland waterways vessels, and wooden ships of primitive build, it is considered that there would be no additional costs and benefits to these vessels under Option 2 because the proposed Regulations would not impose any additional requirements on these vessels compared to the 'Do Nothing' scenario.

- c. To the extent which is practical, existing standards would remain unchanged compared with the 'Do Nothing' scenario. Data requirements would apply across the MAIB's investigatory scope as it would be impractical to have two separate reporting systems for different categories of vessels. However, the proposed changes to data requirements are not anticipated to impose extra burdens on business as it is the view of the MAIB that the impact of the new data that would be required to be reported on the accident report form would be offset by the impact of the removal of the requirement to report some of the data which is currently required to be reported on the form and would no longer be required to be reported, as covered in the costs and benefits section.
- d. In keeping existing standards, an increase in accident investigations is not anticipated for the sectors outside the minimum scope of the Directive, as the MAIB would retain their discretion to investigate accidents which they feel have the most potential for valuable lessons to be learnt. For reasons covered in the Assumptions section, even when investigations do occur, they are not seen to have significant impacts on business.
- e. Therefore, Option 2 is considered to be out of scope of OIOO.

SPECIFIC IMPACT TESTS

Statutory Equality Duties

- 85. The policy has no identified effects on statutory equality duties. The requirements to report accidents apply to everyone owning or aboard relevant vessels.

Competition Assessment

- 86. The proposals would be unlikely to have significant impacts on competition. As explained previously, costs to the fishing sector would not affect productivity and costs to other maritime sectors would generally occur when the vessel is laid up or lost, and would otherwise not be significant enough to affect the industry's competitiveness.

Small Firms Impact Test

- 87. It is likely that small firms would be affected by the legislation that would be introduced under Option 1 and Option 2, as according to 2009 statistics over 90% of fishing, fish farming and related enterprises and over 85% of inland waterways transport enterprises employed under 10 staff in 2009, qualifying as micro-businesses¹⁷.
- 88. Both Option 1 and Option 2 would introduce new reporting requirements in order to comply with the EU Directive. It is not expected that these new reporting requirements (in terms of data required to be reported and types of accidents required to be reported), increases in investigations or the familiarisation costs associated with the legislation would result in significant costs relative to the cost of operating a commercial vessel.
- 89. The other impacts of Option 1 and Option 2 on small firms are discussed below.
- 90. Fishermen's groups have been contacted, as part of the consultation process behind these proposals.

Option 1

- 91. The lack of accident investigation reports and the lack of lessons learnt from them could lead to a decline in safety in the <15m fishing sector and inland waterways sector. Without reminders and information about risks to avoid and safe practices to follow, safety standards may decline and accidents and incidents increase. This would represent a negative impact upon small firms. The size of the firms in question would make it very unlikely that they would promulgate these lessons within the industry themselves.
- 92. Option 1 would result in time savings for the <15m fishing sector and inland waterways sector, but as discussed in the costs and benefits section, these time savings are unlikely to have significant economic impacts on the industry. It is considered that the **time savings could be**

¹⁷ Department for Business, Innovation and Skills, SME Statistics for UK and the Regions 2009, Table 7, http://stats.bis.gov.uk/ed/sme/SMESTats2009_corrected_version.xls

more than offset by any new requirements to be present at or giving evidence for any formal enquiries for accidents which would have been within the investigatory scope of the MAIB under the “Do Nothing” scenario.

Option 2

93. While Option 2 would go beyond the EU minimum requirements and continue to apply current requirements to small fishing vessels under 15m in length and inland waterways vessels, it is the opinion of the MAIB that the owners and operators of small vessels, which account for a significant proportion of deaths and incidents in MAIB statistics, would continue to benefit from the MAIB continuing to collect accident reports and investigate the incidents where lessons can be learnt to improve future safety. The size of the firms in question would make it very unlikely that they would promulgate these lessons within the industry themselves.
94. Compared with the Do Nothing Scenario, there would be no extra time burdens for these firms to comply with the Regulations. They would not be required to report extra types of accidents to the MAIB, the updated data requirements are not expected to significantly change the time it takes to fill in an IRF and it is not anticipated that there would be an increase in MAIB investigations involving these firms. **It is considered therefore that Option 2 would not impose any significant extra burdens on firms outside the minimum scope of the Directive.**

Greenhouse Gas Assessment

95. The increase in the number of investigations, expected under both Option 1 and Option 2, may increase the MAIB’s greenhouse gas emissions, through increased travel. The MAIB mitigates this by being party to the Department for Transport travel guidelines; avoiding domestic air travel where possible; hiring small-engined or diesel-engined cars where appropriate and; carrying out as much of an investigation as possible over the telephone. In any case, the impact on greenhouse gas emissions would be marginal.

Wider Environmental Issues

96. Both options may have a positive impact on the environment, as the MAIB would now be obliged to investigate any accidents involving major pollution or severe damage to the environment.
97. Firms and individuals would be legally required to report any accidents involving major pollution or severe damage to the environment or incidents which could potentially lead to major pollution or severe damage to the environment. Those reporting accidents would also be required, for the first time, to specifically report pollution effects caused by an accident. These changes may help to prevent future damage to the environment through accidents of a similar nature occurring.

Health and Well-being

98. It is likely that there would be health and well-being benefits from the increased number of lessons learned which may prevent future injuries, deaths or pollution of the marine environment. However, there are no estimates of the scale of the reduction in injuries and fatalities due to the continuation of MAIB investigations.
99. It is considered that Option 2 would be more effective than Option 1 in terms of health and well-being, as the scope of accident reporting and investigation would be wider. It is considered that this would help to avoid future accidents of a similar nature by promulgating lessons learnt. Avoiding these accidents would therefore reduce the risks of injuries, fatalities and harmful marine pollution.

Human Rights

100. Both Options 1 and 2 require the Chief Inspector to be mindful of the ILO Convention on the Fair Treatment of Seafarers, who are recognised as a special class of worker who may be vulnerable to human rights infringements. The regulations should safeguard the human rights of those involved in marine accidents abroad. There are no further human rights considerations identified.

Justice Impact Test

101. The Regulations propose no new offences or changes in sanctions for failure to comply.

Rural Proofing

102. As these options include the fishing industry, there are likely to be concerns over rural-proofing, as the industry is a major employer in rural areas. However, the preferred option (option 2) would not impose a significant additional burden on the fishing industry and the lessons learned from the MAIB's investigations into accidents involving fishing vessels would continue to promote safety within the industry and reduce costs through a reduction in vessel losses as well as injuries and deaths. Under Option 1, there would be time savings from not having to give testimony and evidence to MAIB for accidents occurring on vessels outside of the scope of the Directive, but consultees noted that these time-saving benefits would be far outweighed by the costs of reduced safety at sea for vessels outside the scope of the Directive.

SUMMARY AND PREFERRED OPTION

103. Option 2 is the preferred policy option. The MAIB consider that Option 2 best meets the requirement to transpose the Directive, while keeping extra burden on business to a minimum and crucially, permitting the MAIB to continue its internationally-recognised high standard of marine accident investigation. Ultimately, Option 2 is the policy option that is considered to best improve the safety of life at sea.
104. Both Options 1 and 2 would fulfil the objective of harmonising marine investigations across the EU, as they would both implement the Directive.
105. Option 2 would not revoke from the MAIB the freedom to investigate accidents and incidents involving fishing vessels under 15m in length and inland waterways vessels (along with wooden ships of primitive build) which they believe can be used as examples to promote safety at sea.
106. Option 2 would give the Secretary of State for Transport the power to direct the MAIB to investigate certain accidents, as the case would be under the "Do Nothing" scenario. Option 1 would remove this power. Option 2 would reduce the need for formal public enquiries, which has been seen in the past can take years and cost millions of pounds.

IMPLEMENTATION PLAN

107. It is proposed that Option 2 is implemented by means of a Statutory Instrument, 'The Merchant Shipping (Accident Reporting and Investigation) Regulations, 2012' ('the 2012 Regulations').
108. However, having already updated their operational procedures following the introduction of the Directive, it should be noted that the MAIB is already operationally compliant with the Directive (see Paragraph 34). The Regulations would formalise these procedures.
109. The 2012 Regulations would complete UK transposition of the Directive 2009/18/EC, which the United Kingdom is required to transpose into domestic legislation under the European Communities Act 1972 (as revised).
110. The 2012 Regulations would be introduced alongside a new database at the MAIB, which will be connected to the EU's European Marine Casualty Information Platform database at the European Maritime Safety Agency (EMSA). This is required by the Directive, but would allow the MAIB to monitor compliance with the 2012 Regulations and performance of other Member States in meeting their international obligations. This will ensure that the UK's compliance with the Directive, while diligent, is not over-zealous.
111. It is not anticipated that there would be any significant level of opposition to the introduction of the 2012 Regulations.
112. It is not considered that the time taken to learn the new reporting requirements would be particularly burdensome. Even though the requested data is different, the form itself remains in the same format as it has been for a number of years. The traditional methods through which to

submit the form to the MAIB would remain the same, but the MAIB will very soon launch an online version. This should improve compliance with the 2012 Regulations, as it will make it easier to report. The MAIB will make sure that the quality of reports it receives are monitored as part of the implementation plan.

113. A Marine Guidance Note (MGN) would be included as part of the regulatory package to provide further guidance and clarification on the 2012 Regulations for industry, as is standard practice in the sector.

RPC COMMENTS

114. The following changes were made to the impact assessment in response to the RPC's comments. Paragraphs 11 and 12 were inserted to clarify differences between Option 1 and Option 2. The IA now explains that any costs to the MAIB or DfT would not be passed on to businesses in Paragraph 57, 71 and 80. In addition, Paragraphs 81 and 82 elaborate the risks to MAIB reporting standards due to the potential increase in the number of investigations. The OIOO status of the options has also been clarified within the impact assessment.

Annex 1: Post Implementation Review (PIR) Plan

Basis of the review: The Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 contain a review clause, which means they must be reviewed no later than five years after their implementation.

Review objective: In preparation for this deadline, the MAIB proposes to carry out a Post Implementation Review, which will identify how well the Regulations have met their objectives.

Review approach and rationale: The MAIB proposes to conduct this review on an ongoing basis, once the Regulations have been implemented. This is to ensure that the quality of reports the MAIB receives does not diminish and also to ensure that industry is complying with the Regulations. Through the PIR, the MAIB will ensure that there have been no unforeseen burdens introduced on industry and that the Regulations oblige industry to report only the absolute minimum amount of data required to effectively begin an investigation into a marine accident.

Baseline: The production of regular statistics from the Branch's extensive database records allows the MAIB to constantly spot emerging trends and rapidly become aware of deficiencies in both safety and statutory reporting. The baseline for the PIR will be based on: annual reports, which detail the number of reports published and investigations started in the year; two safety studies into fishing vessels, conducted in the last few years; as well as datasets relating to various types of vessels, which start from as early as 1991 and continue up to the present day. As the MAIB has undergone numerous changes of methodology, as well as changes in reporting Regulations, in some areas, the baseline will start with the current Regulations, which came into force in 2005.

Success criteria: The success criteria are that the MAIB is able to continue as an effective body for marine accident investigations and the promotion of safety of life at sea, able to investigate the accidents mandated by the Directive. It is also necessary to ensure that the Directive has not been over implemented, imposing unnecessary burdens on UK businesses, and that the MAIB is fully taking advantage of and participating in the framework of international cooperation in the field of marine accident investigations.

Monitoring information arrangements: The MAIB has a proven track record of critically and constantly monitoring its own performance, with robust corporate governance and regular external audits as well as audits amongst the Accident Investigation Branches themselves. The MAIB actively monitors and participates in many maritime workgroups, both public and private, to ensure that industry is aware of the MAIB's work and also of the requirements to report marine accidents. Through these groups, the MAIB has previously become aware of under-reporting from certain sectors of industry and was able to take remedial action. This will remain an integral part of the MAIB's strategy in future. The MAIB enjoys an excellent reputation within most parts of the industry, and actively courts feedback and external assessment of the Branch's performance. This will likely be a major source of information as to how well the Regulations are working. Through the MAIB's involvement in the EMCIP database scheme, the MAIB will be monitoring other Member States' compliance with the Directive, to ensure that the UK is not over-implementing the Directive and so placing UK businesses at a disadvantage. The UK will also use the database to ensure that other Member States are reciprocally complying with the international requirements of the Directive and so not placing the UK at a disadvantage.

Reasons for not planning a review: N/A

Annex 2: Comparison of Reporting Requirements and Investigation Obligations

Table 1

Vessels subject to Reporting Requirements	Do Nothing	Option 1	Option 2
UK ships	✓	✓	✓
Vessels of substantial interest to the UK	✗	✓	✓
Fishing vessels <15m	✓	✗	✓
Accidents in ports/dockyards involving shore based workers/stevedores	✗	✓	✓
Pleasure Vessels*	✗	✗	✗
Recreational craft hired on a bareboat basis*	Some	Some	Some
Inland waterway vessels or boat in a harbour <8m*	✗	✗	✗
Inland waterway vessels	✓	✗	✓
Wooden ships of primitive build	✓	✗	✓

*These vessels are only required to report accidents when they include: explosion; fire; death; major injury; capsizing of a power-driven boat, or; pollution causing significant harm to the environment

Table 2

Types of accidents required to be reported by vessels in scope of the Directive	Do Nothing	Option 1	Option 2
Very Serious Marine Casualties	✓	✓	✓
Serious Marine Casualties	Most	✓	✓
Marine Casualties	Some	✓	✓
Marine Incidents	✗	✓	✓
Accidents not in relation to the operation of a ship**	✗	✗	✗

** Accidents not in relation to the operation of a ship are not covered by MAIB regulations and are currently forwarded to HSE or MCA where appropriate – this remains the case under Options 1 and 2.

Table 3

Types of accidents required to be reported by fishing vessels <15m, Inland Waterways vessels and Wooden ships of primitive build	Do Nothing	Option 1	Option 2
Very Serious Marine Casualties	✓	X	✓
Serious Marine Casualties	Most	X	Most
Marine Casualties	Some	X	Some
Marine Incidents	X	X	X
Accidents not in relation to the operation of a ship**	X	X	X

*** Accidents not in relation to the operation of a ship are not covered by MAIB regulations and are currently forwarded to HSE or MCA where appropriate – this remains the case under Options 1 and 2*

Table 4

MAIB obligation to investigate	Do Nothing	Option 1	Option 2
Very Serious Marine Casualties to vessels within the minimum scope of the Directive	X	✓	✓
Serious Marine Casualties to vessels within the minimum scope of the Directive	X	Some	Some
Marine Casualties to vessels within the minimum scope of the Directive	X	X	X
Marine Incidents to vessels within the minimum scope of the Directive	X	X	X
Incidents involving ro-ro ferries or high-speed craft in UK waters or where the UK was the last port of call if outside EU waters	X	✓	✓
Investigations ordered by the Secretary of State for Transport relating to any vessel	✓	X	✓

Annex 3: Glossary

Hired on a Bareboat Basis

'Hired on a bareboat basis' means hired without a professional master, skipper or crew.

Marine Casualties

A Marine Casualty is an event or sequence of events that does not qualify as a Very Serious or Serious Marine Casualty and has resulted in any of the following and has occurred directly in connection with the operation of a ship involving: the death of, or serious injury to a person; the loss of a person from a ship; the loss, presumed loss or abandonment of a ship; material damage to a ship; the stranding or disabling of a ship, or the involvement of a ship in a collision; material damage to marine infrastructure external of a ship, that could seriously endanger the safety of the ship, another ship or any individual; or severe pollution, or the potential for such pollution to the environment caused by damage to a ship or ships.

Marine Incidents

A Marine Incident is an event or sequences of events other than a Marine Casualty which has occurred directly in connection with the operations of a ship that endangered, or if not corrected would endanger the safety of a ship, its occupants or any other person or the environment.

Pleasure Vessel

'Pleasure vessel' means-

- (a) any vessel which is:
 - (i) wholly owned by an individual or individuals and used only for the sport or pleasure of the owner or the immediate family or friends of the owner, or
 - (ii) owned by a body corporate and used only for the sport or pleasure of employees or officers of the body corporate, or their immediate family and friends,

and is on a voyage or excursion which is one for which the owner is not paid for or in connection with operating the vessel or carrying any person, other than as a contribution to the direct expenses of the operation of the vessel incurred during the voyage or excursion, or

- (b) any vessel which is wholly owned by or behalf of a members' club formed for the purpose of sport or pleasure which, at the time it is being used, is used only for the sport or pleasure of members of that club or their immediate family, and for the use of which any charges levied are paid into club funds and applied for the general use of the club; and no payments other than those mentioned above are made by or on behalf of the users of the vessel, other than by the owner, and in this definition, "immediate family" means in relation to an individual, the husband, wife or civil partner of the individual, and a brother, sister, ancestor or lineal descendant of that individual or of that individual's husband, wife or civil partner;

Serious Marine Casualties (SMCs)

A Serious Marine Casualty is defined an event or sequence of events that has resulted in any of the following and has occurred directly in connection with the operation of a ship but which do not qualify as a very serious casualty: the immobilization of the main engines; extensive accommodation damage; severe structural damage including penetration of the hull under water rendering the ship unfit to proceed; pollution; or a breakdown that necessitates towage or shore assistance; occurring as a consequence of: fire; explosion; collision; grounding; contact; heavy weather damage; ice damage; hull cracking, or a suspected hull defect.

Stevedore

A shore-based firm or individual involved in cargo handling or the loading or unloading of a vessel's cargo.

Substantial Interest

The IMO deems a state to have a substantial interest where it is a State:

- i) which is the flag State of a ship that is the subject of an investigation; or
- ii) in whose internal waters or territorial sea a marine casualty has occurred; or
- iii) where a marine casualty caused, or threatened, serious harm to the environment of that State, or within those areas over which the State is entitled to exercise jurisdiction as recognised under international law; or
- iv) where the consequences of a marine casualty caused, or threatened, serious harm to that State or to artificial islands, installations, or structures over which it is entitled to exercise jurisdiction; or
- v) where, as a result of a casualty, nationals of that State lost their lives or received serious injuries; or
- vi) that has at its disposal important information that may be of use to the investigation; or
- vii) that for some other reason establishes an interest that is considered significant by the lead investigating State.

Very Serious Marine Casualties (VSMCs)

A Very Serious Marine Casualty is defined as a casualty, directly in connection with the operation of a ship, involving the total loss of the ship or a death or severe damage to the environment.

Annex 4: Data required to be reported to the MAIB

Specific Information Required

	Do Nothing	Option 1	Option 2
Name of ship	>	>	>
IMO, Official or Fishing Vessel number	>	>	>
Date and time of accident	>	>	>
Geographical position of accident	>	>	>
Part of the ship where accident occurred	>	>	>
Details of fatalities and injuries	>	>	>
Brief details of the accident	>	>	>
Ports of departure and destination	>	>	>
Details of other ships involved	>	X	X
Make and model of any Voyage Data Recorder (VDR)	>	X	X
Name and address of owner	>	X	X
Name of Master/Skipper/Person in charge	>	X	X
Weather conditions	>	X	X
Ship Flag	X	>	>
Type of ship	X	>	>
Whether in a Traffic Separation Scheme	X	>	>
Details of pollution	X	>	>
Damage to the ship	X	>	>
Cargo damage	X	>	>
Other damage	X	>	>
Member state responsible	X	X	X
Member state investigator	X	X	X
Member state role	X	X	X
Coastal state affected	X	X	X
Substantially interested states	X	X	X
Notification entity	X	X	X
Time of notification	X	X	X
Date of notification	X	X	X
Ship Operation	X	X	X
Voyage Segment	X	X	X
Brief reasons not to undertake a safety investigation	X	X	X
Type of accident	X	X	X