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| **Title:** The Merchant Shipping (Counting and Registration of Persons on Board Passenger Ships) (Amendment) Regulations 2020 on the registration of persons sailing on board passenger ships.  **Date**: 09/09/2020  DMA No: DfTDMA140  **Lead department or agency:** Maritime and Coastguard Agency  Other departments or agencies: Department for Transport | | De Minimis Assessment (DMA) | |
| **Stage**: Consultation | |
| **Source of intervention**: European | |
| **Type of measure**: Secondary | |
| Summary: Rationale and Options | | Contact for enquiries: Robert Gale  [Robert.Gale@MCGA.gov.uk](mailto:Robert.Gale@MCGA.gov.uk) | |
| Total Net Present Value | Business Net Present Value | | Net cost to business per year (EANDCB in 2020 prices) |
| -£0.11m | -£0.11m | | £0.01m |

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| Rationale for intervention and intended outcomes  Under current UK legislation, UK flagged passenger vessels which make international and domestic voyages, must collect and report relevant information on passengers including crew to the ship master and designated passenger registrars. The passenger registrars are appointed by ship owners and are responsible for the storage and onward transmission of the information. This information is kept on hand for use in search and rescue activities carried out by HM Coastguard and other international authorities.  When an incident occurs, the coastguard operator which receives the incident report will use this information alongside others to get a better picture of the situation to help evaluate and make decisions on what assets to task in response.  The current process by which passenger vessels report, hold and share passenger information for use in Search and Rescue activities is deemed outdated. Modern technology can simplify the process of reporting, thereby limiting undue risks on the persons onboard these vessels.  Currently, passenger information is held by operators and only passed along to the Coastguard upon request for search and rescue activities either by the vessel or the passenger registrar.  The Merchant Shipping (Counting and Registration of Persons on Board Passenger Ships) (Amendment) Regulations 2020 makes amendments that require passenger information to be sent in a shorter time frame after departure and reported digitally to the relevant authorities via the National Single Window (NSW). The NSW comprises an electronic “portal” through which the passenger information can be communicated among other maritime information. In regards the reporting of passenger numbers, ship owners could either report this data through the ship’s Automatic Identification System (AIS) or to the necessary authorities through the NSW. Industry will have the choice of either method for compliance.  It is envisaged that the risk to lives at sea will be minimised as a result of digitised passenger information being sent in a shorter time frame to a centralised portal which is accessible to the Coastguard. Ship operators both domestically and internationally can only benefit from Coastguard having complete information regarding the persons onboard vessels lowering the risk to lives at sea.  Therefore, Government intervention is needed to amend current legislation. This would require industry to update their method of passenger reporting by using AIS (where applicable) and the NSW reducing the risk to passengers and crew onboard to a more tolerable level.  Intended outcome:  The intended outcome of the proposed Regulations is for all seagoing domestic passenger vessels operating within UK waters to use a more efficient and uniform method of collecting and reporting prescribed passenger information digitally. This will mean that information is made available more rapidly via a centralised system to search and rescue authorities if there is an incident on, or involving, the ship. The proposed Regulations will also be applicable to all United Kingdom passenger ships wherever they may be. |

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| Describe the policy options considered  **“Do nothing” is the baseline against which Option 1 and 2 is assessed against.**  “Do nothing” scenario would maintain the status quo leaving current passenger recording and reporting requirements unchanged, this option is not deemed appropriate as it would leave inefficient methods and a higher level of risk to passengers and crew.  **Option 1** *–* Encourage voluntary adoption of digitized passenger reporting via standardised form  One way this could be done is through publishing a Marine Information Notice to highlight the benefits of reporting passenger information within a 15-minute window from departure and encouraging industry to use and send the same standardised form to the NSW or relevant centralised point for authorities. This option is not considered credible as it would present an opportunity for operators to continue under the status quo leaving risks to lives at sea at higher level than is necessary.  **Option 2 – Amend current UK legislation**  Requiring all passenger vessels to be able to send digitised passenger information to the relevant authorities via AIS or the NSW. This information will be accessible to all relevant authorities, helping the travelling public in UK waters continue to have the benefit of the latest procedures and technology for notifying their details to Search and Rescue authorities in the event of an incident.  The preferred option is option 2 because it will obligate operators to use more efficient data reporting processes in conjunction with Search and Rescue authorities with higher compliance compared to option 1. This will allow HM Coastguard to act more efficiently as they will have quicker access to passenger information, subsequently, reducing the risks to lives onboard. |

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| Rationale for DMA rating  The costs for business and Government as a result of the amendments are estimated to be low putting it well below the £5 million Equivalent Annual Net Direct Cost to Business (EANDCB) threshold due to the limited size of the current passenger vessel fleet which would be affected[[1]](#footnote-2). Data collected form the UK fleet register (UKSR) [[2]](#footnote-3) identified there being approximately 149 vessels passenger vessels could be affected, with the potential that some of these vessels will not incur any additional costs from either already having the technological capabilities for compliance or operating entirely on a domestic basis within protected sea areas making them exempt.    The main monetised costs will arise from having to purchase and install the required equipment capable of sending digitised passenger information and familiarising themselves with the proposed Regulations. There are uncertainties around which method will be preferred by industry at this time. The non-monetised costs are associated with AIS functionality, NSW set up, and operation and reduction in reporting time.    Benefits are associated with mitigation of fatalities around incidents at sea and potential cost savings for both the Coastguard and industry. These benefits have not been monetised, due to the lack of available evidence on the current times and reporting methods.    Due to the scale of costs and benefits, a proportionate approach has been adopted in appraising the policy options over a 10-year appraisal period (discounted), with most costs being considered transitional, arising within the 3-year transition period. This approach also demonstrates this policy falls well within the de-minimis threshold using conservative estimates for certain costs.  **Monetised Costs**  Under the proposed Regulations, each passenger vessel would need to be capable of sending digitised passenger information. There are two current methods for compliance laid out in the proposed Regulations which operators could choose to use to report passenger numbers, either: AIS or NSW. NSW can be used to report both passenger numbers and passenger details. Due to the NSW currently only being at pilot stage and not fully operational we have only monetised the AIS method.  *AIS method*  Under this method, each vessel bound by the Regulations will need to purchase and install Class A AIS systems. Passenger vessels which operate internationally are already obligated to have these systems under SOLAS. Many passenger ships are certified to operate internationally, however, may work on a strictly domestic basis leaving them out of scope of the SOLAS requirement. From certification data collected from the Consolidated European Reporting System (CERS) data base[[3]](#footnote-4), we have identified 29 out of the total 149 vessels which can make international voyages that may not have said equipment thus, could incur the cost of equipment.  To establish a prudent estimate of policy impacts we have included all 29 vessels in our calculations. Overall, our central cost scenario for all affected vessels is estimated at £107,000 and could range between £57,000 - £131,000 in our low and high cost scenarios.  *Familiarisation costs*  Owners will need to familiarise themselves with the proposed Regulations and what is required by them to be compliant, which will take time out of their day to day operations. To cost this, we have assumed the time taken to read through the regulations/guidance and chosen an hourly wage from the ONS ASHE[[4]](#footnote-5) data set in 2019 that most likely resembles the operators likely to read through the regulations. We have estimated this will cost owners/operators between £1000 - £4500 over the appraisal period varying with the hourly wage and reading speed.  **Benefits**  The main benefit of this policy is the potential to prevent/avoid future fatalities and injuries due to passenger information always being available for Search and Rescue authorities at the time of incidents. Helping these services get a more complete picture of operation and make more rapid proportionate decisions when reacting to incidents. It is difficult to quantify the benefit this represents due to the difficulty in forecasting how many fatalities/injuries could be prevented from Search and Rescue always having accurate passenger information available.  *Overall*  In summary this policy has an EANDCB of £0.01m putting the cost of the regulation well below the de-minimis threshold |

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| Will the policy be reviewed? Yes | | If applicable, set review date: July 2023 | | | |
| Are these organisations in scope? | **Micro**  Yes | | **Small**  Yes | **Medium**  Yes | **Large**  Yes |

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| Senior Policy Sign-off: |  |  | Date: | 08/04/2020 |
| Peer Review Sign-off: |  |  | Date: | 21/04/2020 |
| Better Regulation Unit Sign-off: |  |  | Date: | 21/04/2020 |

1. **Overview**

**Background**

*Current state of information reporting*

1. UK flagged passenger vessels which make international and domestic voyages need to collect and report passenger information to a designated shore side passenger registrar. Passenger registrars are appointed by ship operators and are responsible for logging the information. There is no set standard to report or hold this information resulting in numerous formats (paper, digital etc). This information is kept on hand for use in search and rescue activities carried out by the Coastguard and other international authorities. When an incident occurs, Coastguard will contact the shore side passenger registrars for said information to help in their operations.
2. Depending on the length of the voyage, different data is required to be reported. For vessels travelling 20 miles or fewer, only the numbers of those on board is required to be reported. For voyages exceeding 20 miles, the family name, forenames, sex, age category and, where volunteered by the passenger, information concerning the need for special care or assistance in emergency situations, are required to be reported to the passenger registrar ashore.
3. The main change introduced by The Merchant Shipping (Counting and Registration of Persons on Board Passenger Ships) (Amendment) Regulations 2020 is that this information is to be reported to the relevant authority via the National Single Window (NSW) or, alternatively, via the ship’s Automatic Identification System (AIS) in regards passenger numbers. With two other changes being introduced:
   * Reduction in the window for operators to report passenger information after departure from 30 minutes to 15 minutes.
   * Incorporation of data protection requirements to ensure that once passenger details are no longer required, they are not held and are erased.

*Government intervention*

1. Government intervention is necessary to amend The Merchant Shipping (Counting of Persons on Board Passenger Ships) Regulations 1999 No.1869. The amendments will be made by Statutory Instrument (SI).

**Methods of compliance:**

There are two methods of compliance operators have open to them:

* National single window
* Automatic Identification System

**National Single Window**

1. The Pilot testing bed known as the National Single Window (NSW) was established in 2015 and owned currently by Her Majesty’s Border Force and aims to simplify the administrative burden upon UK authorities by providing a place where all maritime information is reported once by ship data providers, at either national or port level, and made available to all relevant authorities.
2. The NSW is currently being used in the UK to report back certain information specific to the FAL Convention[[5]](#footnote-6).  The establishment of the “single window” derives from an international obligation; since April 2019, the Convention on Facilitation of International Maritime Traffic, 1965, as amended makes it mandatory for ships and ports to exchange FAL data electronically and encourages the use of the so named “single window”, in which all the many agencies and authorities are involved in the exchange of data via a single point of contact.
3. The current method within the UK for the reporting of information to “SafeSeaNet” the European “Single Window” is via the Consolidated European Reporting System (CERS). Following the UK’s exit from the EU, the CERS team within the MCA will continue to collect and collate information necessary for vessel reporting within the UK. and more information regarding this can be found within MSN 1899.[[6]](#footnote-7)

**Automatic Identification System (AIS)**

1. Automatic identification systems (AIS) are capable of providing information about the ship to other ships and to coastal authorities automatically. It is a broadcast transponder system which operates in the VHF mobile maritime band. For details on specific information the AIS reports please see **Annex 1**.

**Risks surrounding methods**

1. The risks mentioned are slightly alleviated by a **six-year transitional period**. When combined with the transition period of 24 months this allows a total period of eight years from the new reporting requirements (December 2017), to transition to the National Single Window (December 2023).
2. **Rationale for intervention**
3. Safety is the overarching rationale for the proposed amendments being implemented, with respect to the safety of passengers and crew onboard these vessels. Currently, the process for which passenger vessels report, hold and share passenger information for use in Search and Rescue activities is outdated putting undue risks on the persons onboard these vessels as the Coastguard do not have access to full information regarding the passengers onboard at the time of incident and possibly as they carry out their activities.
4. Passenger information plays a vital part in Search and Rescue activities as it allows the Coastguard operators when first responding to an incident report to have a clear picture of the situation helping evaluate what the best response would be. For voyages over 20 nautical miles, information on specific assistance needed for more vulnerable passengers is collected which helps make sure the correct assistance is provided.
5. Currently, passenger vessels report all passenger information to a designated shore side passenger registrar within 30 minutes of departure. Passenger information is held by operators and only passed along to the Coastguard upon request for search and rescue activities either by the vessel or shore side passenger registrar.
6. The Merchant Shipping (Counting and Registration of Persons on Board Passenger Ships) (Amendment) Regulations 2020 will require all passenger vessels to send digital passenger information directly into the NSW or via AIS (in respect of passenger numbers) within 15 minutes of departure aligning us with international standards which the UK is obligated to adhere to as a Member State to the IMO.
7. These proposed amendments will ensure that Coastguard have access to accurate passenger information on board passenger vessels. This will assist Coastguard authorities to properly evaluate each situation, with access to this vital information and makes for a more efficient and smooth operation. These time efficiency and informational access improvements will help lower the risks to lives onboard to a more tolerable level when in distress.
8. This will also bare a higher compliance rate from industry. Without regulations to enforce the use of NSW/AIS, some operators could be non-complaint to avoid the costs when changing their practices to accommodate this new process.

*Policy objectives*

The policy objectives are:

* The objective of these regulations is to maintain a level standard across the international regulatory space and the UK by providing easier access to uniformed systems for Search and Rescue authorities via reporting through a National Single Window.
* The Merchant Shipping (Counting and Registration of Persons on Board Passenger Ships) (Amendment) Regulations 2020 will also provide a significant safety enhancement in current UK regulatory practices with respect to reporting passenger formalities. By developing further our digital framework this will reduce the delay in HM Coastguard response times and provide quicker access to vital passenger information should a Search and Rescue situation occur.

1. **Options Appraisal**
2. In this section, we outline in more detail the policy options we have considered for appraisal. We also give an overview as to the methodology used to assess the costs and benefits of the two policy options considered and the counterfactual. For the purpose of our analysis, we have considered three scenarios in this DMA:

**Options considered**

*“Do nothing” Scenario*

1. The “Do nothing” scenario would maintain the status quo leaving current passenger recording and reporting requirements unchanged. This option is not deemed appropriate as it would leave persons onboard these vessels at a higher level of risk above what could be achieved.

*Option 1 - Encourage voluntary adoption of digitized passenger reporting via standardised form*

1. One way this could be done is through publishing a Marine Information Notice (MIN); these are notices put out by the MCA on the Gov site which provide guidance and information to industry. The MIN could highlight the benefits of digitally reporting passenger information and encourage industry to use and send the same standardised form to the NSW or use AIS when reporting passenger numbers. This option is not considered credible as it would present an opportunity for operators to continue to under the status quo leaving risks to lives at sea at higher level than is necessary.

*Option 2 – Amend current UK legislation*

1. This option would bring The Merchant Shipping (Counting and Registration of Persons on Board Passenger Ships) (Amendment) Regulations 2020 into force by amending current UK legislation, requiring all UK flagged passenger ships to send digitised passenger information to the relevant authorities via AIS or the NSW within a shorter window after departure. This will help the travelling public in UK waters and anyone onboard a UK flagged passenger ship to continue to have the benefit of the latest procedures and technology for notifying their details to Search and Rescue authorities in the event of an incident. Thereby reducing the risks of fatalities and injuries faced by persons onboard.

*Preferred option*

1. The preferred option is 2, as it will help alleviate the inefficiencies present by obligating operators to use more efficient data reporting processes in conjunction with Search and Rescue authorities with higher compliance compared to option 1. Subsequently, reducing the risks occurring like fatalities.

*Analytical Overview*

1. We have undertaken both a qualitative and quantitative assessment of the costs and benefits that the proposed policy options could have across the market for international and domestic passenger vessels. All costs and benefits are assessed here relative to the "Do Nothing" counterfactual.
2. The costs include the purchase and installation of AIS systems, costs of familiarisation with the MSN and SI (opportunity costs). Benefits are potential cost savings for businesses, potential decrease in risk of loss of life at sea and potential cost savings for industry and Coastguard.
3. Throughout our analysis we have encountered data gaps and uncertainty around the data that we have managed to obtain. To mitigate these risks, we have used assumptions and sensitivity analysis where needed.
4. A 10-year appraisal period is used (2020 to 2030) to align this assessment to standard DMA guidelines analysis. Consistent with HM Treasury Green book[[7]](#footnote-8), we have applied a 3.5% per annum discount rate, unless otherwise stated.
5. All figures are presented in 2020 prices and 2020 present values, except for the direct impact on business (Equivalent Annual), which is presented in the 2019 price and 2020 present value to be consistent with previous business impact targets.
6. Through our consultation we will seek to refine all estimates. We have currently assumed a 3-year transitional period whereby vessels will need to be compliant.

*Summary of possible scenarios*

1. These Regulations present two different methods for industry to report passenger information, either via AIS (for passenger numbers) or the NSW. This could result in two different scenarios:

* Industry pick AIS for reporting passenger numbers and NSW to report passenger information; or
* Industry pick NSW to report both passenger information and passenger numbers;

1. NSW is currently only a test bed within the UK and a full system is under development by the UK Border Force which will take three to five years. For industry, operators could need to purchase new, or modify existing communications equipment that is NSW-compatible, when it is available.
2. Due to the constrained transition period and the ambiguous timeframe around the NSW being fully operational, it is unlikely that operators will opt to wait and use NSW specific equipment for compliance. Those operators could be at risk of non-compliance and forced to cease operations if they were to wait. Furthermore, we currently do not have any costings on what industry could face with this method due to its infancy, so we have not managed to cost any scenarios around this method from lack of evidence. For these reasons, we do not think industry will choose to adopt this method in regard to reporting passenger numbers by the allotted deadline and will likely opt for the alternative AIS reporting method.
3. Using AIS systems for reporting would require vessels to be in possession of a Class A system, which is capable of transmitting and receiving information to and from vessels and shore-side. As this is already a proven and used technology, we assume this will be the primary way vessels will comply with these regulations when it comes to reporting passenger numbers. We look to test this assumption at consultation.

**Q1. We ask consultees to provide evidence and opinions on:**

* Do the possible scenarios outlined accurately reflect all possible methods of compliance?
* Are there any other methods of compliance which we have not considered?
* Is the assumption that the majority of industry will opt for AIS to report passenger numbers realistic?

*Potential number of Vessels affected*

1. These Regulation affects all UK flagged passenger vessels which make international voyages as well as certain domestic passenger vessels within the UK, which may include;

* Passenger ships;
* Passenger/Ro-Ro Cargo;
* Passenger/General Cargo;
* Passenger Ferries;
* Ro-Ro passenger ferries;
* Passenger car ferries.

1. The total number of UK flagged passenger vessels which fall within scope of these Regulations, under all options is approximately 149. This information has been obtained from the UKSR database[[8]](#footnote-9) on merchant ships over 100 GT.
2. SOLAS chapter V regulation 19[[9]](#footnote-10) states that: All ships of 300 gross tonnage and upwards engaged on international voyages and cargo ships of 500 gross tonnage and upwards not engaged on international voyages and passenger ships irrespective of size shall be fitted with an automatic identification system (AIS). Due to this this regulation, we assume that there is close to 100% of passenger vessels which make international voyages would already have Class A (transceivers) AIS systems onboard. However, it’s possible for a passenger vessel which are certified to make international voyages operate on a purely domestic basis this would leave them out of scope of SOLAS and exempt from this regulation.
3. Using the CERS data base[[10]](#footnote-11), we’ve verified this assumption. Of the 149 affected vessels there are 24 vessels for which we are uncertain if they have the necessary equipment fitted and 5 vessels for which we are certain do not. Leaving a total of 29 vessels at risk of potentially needing AIS equipment fitted which are certified to make international voyages, we do not have evidence to verify if these vessels only operate domestically.
4. The trend in the fleet passenger vessels which has come under the UK flag has remained fairly low over the past 10 years, from this we assume that over the appraisal period there would only be a marginal change in the fleet size and have only considered currently flagged vessels in our assessment for this reason. We look to test this assumption at consultation.

**Table 1 – Number of affected vessels**

|  |  |
| --- | --- |
|  | **Number of vessels** |
| Vessels with AIS | 120 |
| Suspected vessels in need of AIS | 29 |
| **Total in scope of regulation** | 149 |

MCA Estimates based on UKSR and CERS data

**Q2. We ask consultees to provide evidence on:**

* whether they are already in possession of the necessary Class A AIS equipment.

**Monetised Costs**

1. This section evaluates the monetised costs which could take place from implementing option 2 compared to our “Do Nothing” counterfactual. There are two monetised costs which have been identified during the assessment exercise.

* Purchase and installation of AIS costs;
* Establishment of the NSW;
* Familiarisation costs with reading the Regulations.

**Transition Costs for purchase and installation of AIS equipment**

1. Under the scenario in which industry choose AIS as the preferred method of compliance for reporting passenger numbers, all passenger vessels will need to be outfitted with a Class A AIS system to be capable of reporting data to a central point. All internationally operating passenger vessels that are within scope of this regulation should be in adherence to the SOLAS chapter V regulations, which require all passenger vessels irrespective of GT to be outfitted with this equipment. Only leaving the potential for some domestically operating passenger vessels certified to make international voyages, which don’t operate in those waters to be absent of the Class A AIS system.
2. We have identified 29 potential passenger vessels from our fleet which could be without the necessary AIS system for data reporting which can make international voyages, we do not have evidence to indicate whether these vessels would be exempt. For prudence, we have costed each of these vessels.
3. Our calculations do not take into account the time taken for users to familiarise and train themselves with the use of AIS or maintenance. Use of AIS is simple and intuitive with many operators possibly already having Class B systems with users already adept with its use resulting in no additional burden.
4. Maintenance of AIS is carried out through tests built into the system which check for any errors on a daily/weekly basis, these take between 2 – 5 minutes and only require users to start the process. These tests could be easily merged with other systems checks or when the vessel is on down time placing little to no additional burden on operators. For these reasons, familiarisation, training and maintenance costs are deemed to be negligible and it’s considered proportionate to leave them unmonetized. We look to test this assumption at consultation.

*Cost of AIS equipment*

1. To estimate the cost to industry we have collected a sample of different AIS systems online to produce an average cost per system. The average cost of an AIS system in compliance with the regulation comes to £1800. The use and maintenance of AIS equipment is low impact and discussed under

**Table 2 – Class A AIS system prices (2020 prices)**

|  |  |
| --- | --- |
| **AIS Class A's** | **Price** |
| SIMRAD V5035 Transceiver | £1,755 |
| EM TRAK A200 AIS CLASS A TRANSCEIVER | £1,190 |
| Raymarine – AIS4000 AIS Transponder | £2,595 |
| McMurdo – Smartfind M5 c/w GPS Antenna | £1,787 |
| Digital Deep Sea CLA2000 Class A AIS Transponder | £2,149 |
| **Average cost of equipment** | **£1,800** |

MCA Estimates based on sellers of AIS systems[[11]](#footnote-12)

*Cost of AIS installation*

1. Subsequently, operators would then need these systems installed, requiring set up of the main device at the helm and wiring to the appropriate places (antenna, GPS etc). The MCA has engaged with industry[[12]](#footnote-13) and received multiple quotes for installation of class A systems, this cost has ranged from £300 per installation to £700 per day.
2. This total installation cost varies depending on the size of vessel, retrofitting required, any pre-existing AIS equipment (Class B) which could be replaced (1 day with pre-existing AIS, up to 4 days without).
3. Presently, there is a lack of data available to provide an estimate of the costs each of these operators would face due to their heterogeneous nature, whereby costs faced by each operator could vary. To account for the uncertainty, we have employed sensitivity analysis to produce a range of different costs from low to high to reflect this uncertainty.
4. Our central scenario assumes the installation of AIS equipment will take 3 days at a cost of £700 per day due to no prior AIS equipment being installed, with our high cost scenario taking 4 days at £700 per day and our low cost scenario opting for the lowest quote and time frame at 1 day costing £300 assuming a form of AIS equipment is already installed. These scenarios should capture the difference between small to large vessels, the central and high cost scenarios are likely overestimates as most vessels would have some form of AIS system installed out of best practice.

*Formula – Days taken for installation x cost of installation per day*

**Table 3 – Installation costs for AIS equipment (2020 prices)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Installation costs** | **Low** | **Central** | **High** |
| Days taken for installation | 1 | 3 | 4 |
| Cost of installation per day | £300 | £700 | £700 |
| **Total cost** | **£300** | **£2,100** | **£2,800** |

MCA Estimates based on quotes from manufacturers

1. Our central installation scenario estimates the installation costs of an AIS system being £2100 per vessel, ranging between £300 - £2800 in our low and high cost scenarios respectively.

**Q3. We ask consultees to provide evidence on:**

* Costs faced when installing class A AIS equipment
* Costs associated with use and maintenance of Class A AIS equipment

*Cost to industry*

1. Alongside the estimates we have created for the purchase and installation costs those industry participants could bear, uptake scenarios have been constructed based on MCA judgment for when these operators will purchase and install these systems due to the three-year transition period. Uptake scenarios are presented below, with more detail in the **annex 1**.
   * High cost uptake – Majority of purchases will occur at the start of the transition period
   * Central cost uptake – Majority of purchases will occur in the middle of the transition period
   * Low cost uptake - Majority of purchases will occur at the end of the transition period
2. We’ve not taken into account the loss of revenue some vessels may face from installation if day to day business would need to cease due to the highly variable amount of work each vessel could face (opportunity cost). This cost could be avoided via installation happening while on down time from their activities, we look to collect more evidence at consultation.

Formula: (No of vessels x (cost of equipment + installation costs)) x Uptake each year

**Table 4 – Total cost of transition (2020 prices, discounted)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2020 | 2021 | 2022 | 2023 | **Total cost** |
| High scenario annual cost | £ 80,000 | £ 39,000 | £ 6,000 | £ 6,000 | **£ 131,000** |
| Central scenario annual cost | £ 11,000 | £ 44,000 | £ 42,000 | £ 10,000 | **£ 107,000** |
| Low scenario annual cost | £ 6,000 | £ 6,000 | £ 9,000 | £ 36,000 | **£ 57,000** |

MCA Estimates

1. Using the estimates and uptake scenario, our central scenario is estimated to cost industry £107,000 for the purchase and installation of AIS equipment. This ranges between £57,000 - £131,000 in our low and high cost scenarios respectively.
2. Even in the scenario where all 29 vessels using our high costs were to be bore in year one, this would only total £131,000 for the transition.

**Q4. We ask consultees to provide evidence on:**

* Whether the estimated costs for class A AIS equipment and installation are accurate?
* When would operators look to install class A AIS during the transition period?
* Would the installation of AIS equipment require day-to-day operations to cease?

*Familiarisation costs with reading regulation*

1. Those affected by the proposed regulations will need to read and familiarise themselves new requirements. There is a cost to this as it takes time that could be employed elsewhere. The time taken and cost for industry to read the amendments was calculated using the Gross Hourly Earnings data sourced from the 2019 Annual Survey of Hours and Earnings (ASHE) data set. ‘Managers and directors in transport and logistics’ code was used which is assumed to be a reliable source of information and representative of the hourly wage of those involved in this task.
2. A range of hourly labour costs and time taken to read the amendments have been taken into account to acknowledge the different salaries and reading speeds of the operators and ship masters. This is all represented by the low, central and high case scenarios of what the total familiarisation costs could be. It has been assumed there could be up to 4 persons [[13]](#footnote-14)which could be required to familiarise themselves with these documents, including the operating firm, captain of the vessels and those assigned to tracking and reporting passenger data. This would depend on the size of the vessel, the operator of vessels as each firm may own more than one and the duties assigned to each person which could be spread over multiple crew or concentrated on one.
3. The time taken for operators and ship masters to familiarise themselves with the MSN and regulations is assumed to be 20 minutes in our central scenario based on the documents both being 6 pages (4800) and an average reading speed 250 words per minute. This assumption is based on MCA judgment as many operators and ship masters would already be familiar with the topic and one of the methods of compliance. With the mean wage taken from the ‘Marine and waterways transport operative’s’ hourly earnings in the ASHE data set[[14]](#footnote-15), a 20% up and lower sensitivity has been used to estimate the low and high case scenarios as the difference in reading speeds should not be drastically different.
4. With hourly earnings being taken from the 30th and 70th percentiles for out low and high scenarios. These cost ranges and assumptions will be tested at consultation.

* **High case scenario**, 24 minutes to read with 70th percentile hourly wage
* **Central case scenario**, 20 minutes to read with mean hourly wage
* **Low case scenario**, 16 minutes to read with 30th percentile wage

*Formula – No of people reading x (Reading time x (Hourly age ÷ 60)*

**Table 5 – Total familiarisation costs (2020 prices)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Low** | **Central** | **High** |
| No of affected vessels | 149 | 149 | 149 |
| No. of people reading | 298 | 447 | 596 |
| Reading Time (minutes) | 16 | 20 | 24 |
| Hourly wage | 12.82 | 17.72 | 18.75 |
| **Total Cost** | £1,000 | £2,600 | £4,500 |

MCA Estimates based on length of documents (rounded so may not sum)

1. In our central cost scenario with 3 personnel reading the documents is estimated to cost £2600. This could range from £1000 to £4500 in our low and high cost scenarios, these depend upon the number of personnel, reading speeds and hourly wage of said personnel.

**Q5. We ask consultees to provide evidence on:**

* Whether the assumptions used are realistic and reflect the real time taken and wage of operators?
* How many personnel would these documents be mandatory for to read?
* Evidence on the time and number of personnel it would take to familiarize yourselves with the proposed regulations (MSN and SI)

**Non-monetised Costs**

1. This section evaluates the non- monetised costs from implementing option 2 compared to our “Do Nothing” counterfactual. There are three non-monetised cost which have been identified during the assessment exercise. This covers:

* Transition and Ongoing costs for the AIS method functionality
* Reduction in reporting time window
* NSW method

*Transition and Ongoing costs of additional functionality with AIS method*

1. Under the scenario in which industry choose AIS as the preferred method of compliance for reporting numbers, all passenger vessels which make voyages will need to be outfitted with a Class A AIS system. All passenger vessels that are within scope of these Regulations would already be in adherence to the SOLAS chapter V regulations, which require all passenger vessels irrespective of GT to be outfitted with this equipment.
2. It would be fair to assume that no additional costs would be placed on industry from this Regulation in regards the installation of AIS equipment, as the cost is likely to have already been borne as a result of a previous international requirement.

*NSW system set-up and operation*

1. The NSW system is currently under development in the UK and will need to be fully set up by the end of the transitional period. Passenger information will only be one of a sum of information being held on this system with the proposed Regulations only making up a fraction of the overall cost.
2. This system is currently being developed by the UK Border Force; they have managed to provide us with some costs of the test bed. The current test bed which was run during 2015 was comprised of the following costs:
   1. £755,000 full setup costs
   2. £163,000 per year in running costs
3. The proportion to which these proposed Regulations will make up of these costs is unknown, however, due to the nature of the information being limited in size is only expected to make up a small portion. Due to the uncertainties around the makeup of costs and the additional costs for full operation, it’s been deemed appropriate to leave this unmonetized.

*Reduction in reporting time window*

1. The proposed Regulations will reduce the current window operators have for reporting their passenger information from within 30 minutes to within 15 minutes after departure; this has come about due to the advent of more modern technology and most information being collected before the departure date/time when passengers book their tickets. This would not prove any problem for most larger operators which have the systems and infrastructure which allows for this easy transition, however, smaller vessels which use more traditional methods for counting and offer tickets on the day of departure which are not digitised could face problems. These smaller vessel operators may struggle to get all the passenger information reported within the allotted time.
2. It is assumed that all vessels which are presently using these methods would be small operators and be making voyages which fall under 20 miles and therefore, would not be required to collect the additional data which could delay their reporting, only needing to report the number of passengers, thereby not placing any additional burden or requiring changes to their current methods.

**Q6. We ask consultees to provide evidence on whether this assumption is realistic.**

* Would the reduction in reporting time from departure require changes to current practices?
* What impact would this have on your business?

**Benefits**

*Unmonetized Benefits*

1. This section evaluates monetised and non-monetised benefits from implementing option 2 compared to our “Do Nothing” counterfactual. We’ve been unable to monetise any benefits from this regulation due to lack of data and clarity around the future direction of the two methods of reporting and what this will mean for industry and the economy. This covers:

* Centralisation of information reporting
  + Potential decrease in risk of loss of life at sea;
  + Potential cost savings for the Coastguard;
  + Potential cost savings for businesses;

**Harmonisation of information reporting**

*Potential risk reduction in fatalities*

1. The key benefit of these Regulations is reducing the risk to those onboard passenger vessels which are involved in an incident requiring the services of Search and Rescue authorities. The risks are presently caused by the Coastguard not having direct access to passenger information at the time of an incident requiring them to contact the designated shore side passenger registrars.
2. This activity increases the time it takes to make proportionate decisions when assets are being tasked and could result in this information not being received if the shore side passenger registrar cannot be reached. These outcomes present a risk to those lives onboard due to the potential lag between the incident and information being received.
3. With the centralisation of data, enhanced accessibility through the NSW once available, uniformity, and more rapid availability due to the decrease in reporting time from 30 minutes to 15 minutes after departure, the Coastguard would have information available to them quicker and in a more easily accessible form. Subsequently, allowing them to react and make more proportionate decisions around Search and Rescue matters, in a timelier fashion reducing the risks to those involved. Even for accidents which take place closer to shore and departure due to the shorter reporting window.
4. It is hard to predict the number of fatalities that could be prevented in the future as a direct result of the proposed Regulations, since incidents and fatalities are dependent on a lot of different factors such as behaviour, weather, activity, category of water and changes within industry itself. There is also limited evidence to draw upon to help back this up, which would make any benefits difficult in solely attribute to these regulations alone.
5. Due to these factors and the low impact of these Regulations, we have taken a proportionate approach and produced an illustrative example of the savings associated with preventing one fatality over the appraisal period compared to the full costs.
6. The value of one life based on the Health and Safety Executive (HSE) study of ‘Costs to Society per case- average appraisal value estimate (£ in 2016 prices) is £1.7m (uplifted to £2019)[[15]](#footnote-16). The total costs identified in this analysis total £0.11m giving us a total cost – benefit ratio of 15, demonstrating that even if only one life was saved as a result of these Regulations, it would outweigh the estimated costs.
7. The safety benefits from a Search and Rescue perspective will not be isolated to the UK but will be felt by the international authorities due to the NSW system being accessible across all EU member states from SeaSafeNet.

*Potential cost savings for Coastguard*

1. The time taken in the activity of Coastguard contacting shore side passenger registrars as an incident occurs represents a cost, as it takes time that could be employed elsewhere. The NSW/AIS would eliminate the need for this activity, which should result in a more efficient use of their resources saving the Coastguard time, manpower, and operational costs through avoidance of disproportionate responses.

*Potential cost savings for businesses*

1. Current legislation requires businesses to appoint a shore side passenger registrar which all passenger information is then reported to for the business and subsequently, logs this information. This duty represents an opportunity cost. Those employees appointed this task spend time formatting data and communicating with the Coastguard when necessary, which could be used elsewhere in the business.
2. The proposed Regulations seek to make this system obsolete, resulting in those personnel currently carrying out this duty moving onto different tasks. There is no evidence to draw upon to help quantify the time saving this represents and the associated benefit, however, these are assumed to be marginal and as such have been left unmonetized. We look to gather more evidence at consultation to check this assumption.

**Q7. We ask consultees to provide evidence on the impact of how the changing role of the passenger registrar will affect your business operations, specifically on:**

* How much time does it take to collate this data into the necessary database and send it to the NSW? How much time will now be saved?

**Wider Considerations**

1. This section considers the wider impacts from implementing option 2 compared to our “Do Nothing” counterfactual.

*Small and micro business Assessment*

1. The proposed Regulations will apply to all seagoing domestic passenger vessels under the UK flag, with all vessels either requiring to be compliant under two separate methods of information reporting.
2. Under the AIS method all passenger vessels not currently fitted with the appropriate AIS systems would need to have these installed AIS by the end of the transition period regardless of size. It is assumed that no small or micro businesses will be disproportionately affected by these Regulations as the cost of AIS systems does not vary with vessel size and installation costs are proportionate to vessels size which we would assume larger vessels would belong to larger businesses. Furthermore, it is likely that many of the smaller operators will be those which operate on a strictly domestic basis making them exempt from this regulation and the associated impacts.
3. We don’t have evidence to glean whether the NSW method would have any disproportionate impacts on small and micro businesses, however, this is not expected to be the case.

*UK reputation*

1. Failure to apply these Regulations could be seen as the UK not doing everything in its power to facilitate the highest safety to all passenger vessels and persons at sea in line with international standards.

**Risks and unintended consequences**

1. Throughout our costs and benefits we’ve needed to make assumptions due to a lack of data; these assumptions have a lot of uncertainty around them as they are dependent on many factors. To take into account this uncertainty, we have employed sensitivity testing for many assumptions used throughout to present a range of different possible cost and benefit impacts that could arise, which will all be checked at consultation.

*Affected vessels*

1. The data collected from UKSR around the number of passenger vessels currently under the UK flag is considered accurate at the time of collection. However, vessels which are certified to make international voyages may not go to sea and operate on a purely domestic basis on inland water ways and within ports.
2. Vessels that operate on this basis would be exempt from the proposed Regulations and would not incur the additional cost burdens identified throughout the analysis, however, there is a lack of evidence at present to glean the proportion of passenger vessels which fall in scope of this exemption. As such, all vessels which have been identified as possibly needing AIS systems for compliance have been included in our calculations, which is most likely an overestimate.

*AIS and NSW equipment*

1. At this time the NSW system which all passenger information will be centralised in, is still in its developmental stages in the UK. There is uncertainty around how passenger information will be reported once operational. It has been difficult to establish how and if AIS will be intended to be used to provide full compliance of this Directive or rather as we understand only partial compliance through reporting passenger numbers only. The underlining costs to business could vary depending on the direction technology and the requirements on operator’s head in.

*Value of life*

1. The value of life statistic produced by the HSE bears a risk in its use. As it may be out of date if, for example, assumptions/costings used in the study may have changed since its release.

**Consultation questions**

1. During the consultation phase of these Regulations, we ask that consultees provide wherever possible, estimates of the costs and benefits of this policy. Although this assessment considers many of the potential costs and benefits which industry could face, there is still large evidence gaps that exist which have been filled with assumptions. Primarily evidence is required in areas such as;

* Methods of compliance open to industry for compliance;
* Cost of Class A AIS systems and installation;
* Time taken for operators to familiarise themselves with the proposed regulations;
* How much time does the retrieval of this information take for Coastguard.

1. We also ask consultees for any additional evidence relating to any perceived costs or benefits that have not been takin into account in this de minimis assessment.

**Rationale for De Minimis Rating**

1. Summary of total costs and benefits for Option 1 under the AIS scenario against our counterfactual are shown below:

**Table 6 – Summary of costs and benefits (2020, Discounted)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Low** | **Best Estimate** | **High** |
| Familiarisation costs | £ 1,000 | £ 2,600 | £ 4,500 |
| AIS costs | £ 57,000 | £ 107,000 | £ 131,000 |
| **Total Cost** | £ 58,000 | £ 109,600 | £ 135,500 |

MCA Estimates based on length of documents (rounded so may not sum)

1. Our best estimate of the total costs of these Regulations over the appraisal period is £110,000 (rounded), this puts it well below the DMA threshold of £5m annual net cost/benefit even if we consider the high cost scenario.
2. These Regulations are considered uncontentious and non-controversial as it is an agreed upon European Directive which will only have a small monetary impact on industry while updating the out-dated and inefficient methods of the past. For these reasons, it is deemed proportionate for a de-minimis assessment to be carried out at consultation stage with it being exempt from the BIT, all costs and benefits will be tested at consultation to gauge whether they truly reflect reality.

**4. Post implementation review**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Review status: Please classify with an ‘x’ and provide any explanations below.  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Sunset clause |  |  | Other review clause |  | X | Political commitment |  |  | Other reason |  |  | No plan to review | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Expected review date (month and year, xx/xx):  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | 0 | 7 | / | 2 | 3 |  |  |  | |

|  |
| --- |
| 1. Rationale for PIR approach:   Level of evidence and resourcing that will be adopted for this PIR: Medium  The PIR will be an administrative process to evaluate the development and operation of the NSW alongside the chosen method of compliance which industry adopts for reporting. There is currently a lack of clarity and evidence to evaluate the costs and benefits associated with these Regulations presently due to the infancy of the technology and the numerous possibilities that these technologies could take in the future. The costs and benefits are dependent upon the direction these reporting methods and technologies take, with the primary focus of the PIR exercise to collect evidence to help further analyse these once the method and process are more defined.  As the NSW is predicted to be operational by the end of the transition period in 2025, for prudence sake we have deemed it appropriate to carry out the review before 5 years. This will allow the MCA to review whether these Regulations are still relevant, and the preferred method of compliance industry has taken.  Specific areas evidence will be sought on:   * Development and operation of the NSW system, with focus on the NMSW and passenger counting;   + Progress of the NSW and associated costs * Direction of technology and adoption within industry for compliance with the Regulation;   + Which technology is the preferred way of reporting passenger information and passenger numbers?   + What impacts will this have? * Costs and benefits associated with the new method for both industry and Coastguard;   + Time savings   + Cost of equipment * Opinions on implementation and usefulness of this new process and method of disseminating passenger information.   This evidence will be collected via consultation, targeted stakeholder engagement, monitoring of technological direction and surveys. |

**Annex 1 – AIS Information reporting capabilities**

The following static information can currently be transmitted via AIS:

* MMSI number
* IMO number
* Name and Call Sign
* Length and Beam
* Type of ship and Location of position fixing antenna.

The following Dynamic Information is also transmitted (Dependant on speed and course alterations)

* Ship’s position with accuracy indication,
* Position time stamp (in UTC)
* Course Over Ground (COG)

The following Voyage Related Information is also transmitted (Every 6 minutes, when data is amended, or on request)

* Ships Draught
* Type of Cargo
* Destination and ETA
* Route Plan (Waypoints)

Short safety related messages

Free format text messages addressed to one or many destinations or to all stations in the area can also be transmitted.

**Annex 2 – Uptake scenarios**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Uptake of AIS system** |  |  |  |  |
| Year | 2020 | 2021 | 2022 | 2023 |
| High cost scenario | 60% | 30% | 5% | 5% |
| Central cost scenario | 10% | 40% | 40% | 10% |
| Low cost scenario | 10% | 10% | 15% | 65% |

The table above sets out the assumed uptake scenarios for the transition period under the AIS method, whereby those operators currently absent of a Class A AIS system. Would need to purchase and install said system by December 20, 2023 for adherence to information reporting under the new regulation.

These uptake scenarios look to capture the different costs based upon when operators are to purchase and install the required equipment ranging from the majority of operators purchasing equipment up front at the start in our high cost scenario to operators waiting for more certainty around the technologies and opting to stave off purchase until the end of the transition period.

1. Better regulation Framework -<https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/735587/better-regulation-framework-guidance-2018.pdf> [↑](#footnote-ref-2)
2. The figures used in relation to the number of affected vessels meeting the criteria were collated from the MCA’s UK ship register (UKSR) Database. The data was correct as of February 2020 [↑](#footnote-ref-3)
3. The information used in relation to checking vessels certification to verify that vessels have the required class A AIS systems came from the Consolidated European Reporting System, which is an online MCA database. This was collected in March 2020. [↑](#footnote-ref-4)
4. Office for National Statistics, Annual Survey of Hours and Earnings <https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/annualsurveyofhoursandearningsashe#:~:text=Aim%20of%20this%20survey&text=ASHE%20provides%20information%20about%20the,time%20or%20part%2Dtime%20status.&text=basic%20pay%20including%20other%20pay,overtime%20pay> [↑](#footnote-ref-5)
5. [Convention on Facilitation of International Maritime Traffic (FAL Convention)](http://dmr.regs4ships.com/docs/international/imo/conv/fal.cfm) as amended. <http://www.imo.org/en/OurWork/Facilitation/ConventionsCodesGuidelines/Pages/Default.aspx> [↑](#footnote-ref-6)
6. <https://www.gov.uk/government/publications/msn-1899-mf-vessel-traffic-monitoring-notification-and-reporting-requirements-for-ships-and-ports> [↑](#footnote-ref-7)
7. Green book - <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent> [↑](#footnote-ref-8)
8. The figures used in relation to the number of affected vessels meeting the criteria were collated from the MCA’s UK ship register (UKSR) Database. The data was correct as of February 2020 [↑](#footnote-ref-9)
9. SOLAS chapter V regulation 19 - <http://solasv.mcga.gov.uk/regulations/regulation19.htm> [↑](#footnote-ref-10)
10. The information used in relation to checking vessels certification to verify that vessels have the required class A AIS systems came from the Consolidated European Reporting System, which is an online MCA database. This was collected March 2020. [↑](#footnote-ref-11)
11. [SIMRAD V5035 Transceiver link](https://www.echomasterdirect.co.uk/SIMRAD_V5035_Class_A_Transceiver)

    [EM TRAK A200 AIS CLASS A TRANSCEIVER link](https://www.fcmarine.co.uk/product/em-trak-a200-ais/)

    [Raymarine – AIS4000 AIS Transponder link](https://hudsonmarine.co.uk/products/raymarine-ais4000-class-a-ais-transponder-e70601)

    [McMurdo – Smartfind M5 c/w GPS Antenna](https://www.cactusnav.com/mcmurdo-smartfind-class-transponder-antenna-p-12917.html?gclid=Cj0KCQjw0pfzBRCOARIsANi0g0sqhFusiKBTD_jdhyguG1tWwxsoYHwjgI2usl0zUAAuXzWFTYhH-vEaAlECEALw_wcB)

    [Digital Deep Sea CLA2000 Class A AIS Transponder](https://www.cactusnav.com/digital-deep-cla2000-class-transponder-p-30351.html) [↑](#footnote-ref-12)
12. Manufacturers and installers engaged for quotes were: Furuno, Hudson marine and an independent contact. [↑](#footnote-ref-13)
13. The 4 potential readers of these document considered in the familiarisation calculations are: Owner, Operator, Ship master and officer in charge of data reporting. [↑](#footnote-ref-14)
14. <https://www.ons.gov.uk/releases/analysesbasedonannualsurveyofhoursandearningsprovisional2018andrevised2017> - Table 14.5a Hourly pay - Gross (£) - For all employee jobs: United Kingdom, 2019 (‘Managers and directors in transport and logistics’) [↑](#footnote-ref-15)
15. Source: Health and Safety Executive (HSE) study of ‘Costs to Society per case- average appraisal value estimate in £2016 inflated to £2019.

    http://www.hse.gov.uk/economics/eauappraisal.htm [↑](#footnote-ref-16)