

<b>Title:</b> The Merchant Shipping (Safety of Navigation) Regulations 2011 ("the UK Regulations")  <b>IA No:</b> DFT00110  <b>Lead department or agency:</b> Maritime and Coastguard Agency (MCA)  <b>Other departments or agencies:</b>	<b>Impact Assessment (IA)</b>		
	<b>Date:</b> 28/10/2011		
	<b>Stage:</b> Final		
	<b>Source of intervention:</b> International		
	<b>Type of measure:</b> Secondary legislation		
<b>Contact for enquiries:</b> Keith Tatman 02380 397873			
<b>Summary: Intervention and Options</b>			<b>RPC:</b> RPC Opinion Status

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?
£-0.01m	£-0.01m	£0.001m	No
			NA

**What is the problem under consideration? Why is government intervention necessary?**

The problem is how to improve maritime security, safety and environmental protection. The purpose of Long Range Identification and Tracking (LRIT) is to identify and locate ships carrying LRIT equipment. This will help with the assessment and mitigation of shipping security risks. It will also assist with search and rescue (SAR) operations and environmental protection. An amendment to the International Convention for the Safety of Life at Sea (SOLAS) and Directive 2009/17/EC introduced requirements for certain ships engaged in international voyages to carry LRIT equipment. Intervention is required to introduce the UK Regulations to implement these requirements into UK law.

**What are the policy objectives and the intended effects?**

The objectives of the UK Regulations are to improve maritime security, safety and environmental protection by requiring certain ships engaged in international voyages to carry LRIT equipment. The UK Regulations will enable ships carrying LRIT equipment to be identified and located. This will help to assess and mitigate shipping security risks as well as to assist with SAR operations and environmental protection. By introducing the UK Regulations, the UK would also comply with its obligations to implement the amendment to SOLAS and the LRIT requirements of Directive 2009/17/EC into UK law in accordance with current Government policy.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

Doing nothing is not considered a viable option, as the current UK policy, as a Contracting Government to SOLAS, is to implement amendments to SOLAS into our domestic legislation. Not doing so would be contrary to current Government policy and leave the UK open to criticism from the International Maritime Organisation (IMO). Additionally, a similar LRIT carriage requirement exists in Directive 2009/17/EC, and failure to implement this requirement could lead to infraction proceedings.

Option 1: Introduce the UK Regulations to implement the amendment to SOLAS and the LRIT requirements of Directive 2009/17/EC into UK law. This is the preferred option as it would give the Maritime & Coastguard Agency (MCA) the necessary power to enforce the carriage of LRIT equipment by affected ships. It would also avoid international scrutiny and the risk of infraction proceedings.

<b>Will the policy be reviewed?</b> It will be reviewed. <b>If applicable, set review date:</b> 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.		<b>Micro</b> Yes	<b>&lt; 20</b> Yes	<b>Small</b> Yes	<b>Medium</b> Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)			<b>Traded:</b> NA		<b>Non-traded:</b> 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: \_\_\_\_\_ Date: \_\_\_\_\_

# Summary: Analysis & Evidence

# Policy Option 1

**Description:** Introduce the UK Regulations to implement the amendment to SOLAS and the LRIT requirements of Directive 2009/17/EC into UK law.

## FULL ECONOMIC ASSESSMENT

Price Base Year 2010	PV Base Year 2011	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -0.011	High: -0.008	Best Estimate: -0.010

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.008	1	0	<b>0.008</b>
High	0.011		0	<b>0.011</b>
Best Estimate	0.010		0	<b>0.010</b>

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

1.) The costs to the operators of UK registered ships of equipment testing as a result of the UK Regulations have been estimated at approximately £300 to £1,050, with a Best estimate of £750. 2.) The costs to the operators of UK registered ships of purchasing and installing new equipment as a result of the UK Regulations have been estimated at approximately £7,600 to £10,000, with a Best estimate of £8,800.

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

1.) It is possible that the operators of UK registered ships could incur other additional costs, including familiarisation costs and unanticipated costs relating to system repair or maintenance. 2.) The operators of ships that join the UK Ship Register could need to re-test their LRIT equipment. 3.) As the UK Regulations would apply to non-UK registered ships that call at UK ports, there could potentially be some additional costs for operators of non-UK registered ships.

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

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

Given the limitations of the available evidence base which are discussed in this impact assessment (e.g. there is no evidence available on the extent that the UK Regulations would contribute to improving security, safety and environmental protection), it has not been possible to monetise any of the benefits that have been identified in this impact assessment.

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

The benefits of LRIT include improving security by providing a better understanding of ship arrivals and the whereabouts of ships, improving safety and environmental protection, and assisting with Search and Rescue operations. The UK Regulations should assist in delivering these benefits. However, there is no evidence available on the extent that the UK Regulations would contribute to delivering these benefits.

### Key assumptions/sensitivities/risks

Discount rate (%) 3.5%

1.) Due to the limitations of the available evidence base which are discussed in this impact assessment, it has not been possible to monetise some of the costs and all of the benefits of the UK Regulations. 2.) The estimates of the monetised costs are sensitive to the assumptions that have been made and the estimates that have been used. 3.) As this is an international measure, it is out of scope of OIOO.

## BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: 0.001	Benefits: NQ	Net: -0.001	No	NA

# Evidence Base (for summary sheets)

## 1. Background on Long Range Identification and Tracking

The International Convention for the Safety of Life at Sea (SOLAS)<sup>1</sup> governs the majority of safety regulations affecting ships.

Following the events of 11 September 2001, the political profile of maritime security was raised considerably. In 2002, a requirement to fit Automatic Identification Systems (AIS) was introduced. AIS improve navigation safety and enable coastal States to monitor traffic within Very High Frequency (VHF) range of their coasts. However, monitoring of traffic at longer ranges is not possible with AIS.

Following discussions at the International Maritime Organization (IMO), the concept of Long Range Identification and Tracking (LRIT) was developed for ships undertaking international voyages. An amendment to the SOLAS convention (the new SOLAS Chapter V Regulation 19-1)<sup>2</sup>, which entered into force on 1 January 2008, established a multilateral agreement whereby LRIT information that is transmitted can be shared for security functions as well as for Search and Rescue (SAR) and environmental protection purposes. Information on LRIT transmissions is restricted for use by Contracting Governments<sup>3</sup> to the IMO (e.g. the UK Government) and their Maritime Administrations (e.g. the Maritime and Coastguard Agency (MCA) in the UK), and is not available to third parties or other ships. Further details of LRIT are available on the IMO website<sup>4</sup>.

The amendment to the SOLAS convention requires ships in the following categories to be fitted with appropriate LRIT equipment when engaged on International voyages: a) Passenger Ships - including High Speed Craft; b) Cargo Ships – including High Speed Craft of 300 gross tonnage or more; and c) Mobile Offshore Drilling units. Affected ships are required to be fitted with the appropriate LRIT equipment in accordance with an implementation timetable based on the age of the ship and the date of the first radio survey after 31 December 2008. This would be also based on whether the ship is “new” or “existing” and in which sea area they operate. For the purposes of LRIT, there are four defined sea areas based upon the location and capability of onshore-based communication facilities. Sea Area A1 is defined as the area where the radiotelephone coverage of VHF coast stations is available. Sea Area A2 is where the radiotelephone coverage of Medium Frequency (MF) coast stations is available. Sea Area A3 is where the coverage of Inmarsat geostationary satellites is available. Sea Area A4 is outside of areas A1 – A3, mostly sea areas around the Polar Regions.

- Ships certified solely for operations in sea area A1 and fitted with AIS are not required to comply.
- Ships constructed before 31 December 2008 and certified for operation in sea areas A1 and A2, or sea areas A1, A2 and A3, are required to comply by no later than the first survey of the radio installation after 31 December 2008.
- Ships constructed before 31 December 2008 and certified for operation in sea areas A1, A2, A3 and A4 are required to comply by no later than the first survey of the radio installation after 01 July 2009. However, these ships must comply with the requirements for ships certified for operations in sea areas A1, A2 and A3 when operating in those sea areas from 31 December 2008.
- Ships constructed after 31 December 2008 (except ships certified solely for operations in sea area A1 and fitted with AIS) must comply with these requirements upon delivery.

The amendment to the SOLAS convention also requires an affected ship to report its identity and position every six hours to the relevant receiving authority, of which there are four:

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<sup>1</sup> <https://mcanet.mcga.gov.uk/public/c4/solasv/index.html>.

<sup>2</sup> [http://www.lrit.com/documents/imo\\_resolutions/Resolution%20MSC.202\(81\)%20-%20LRIT%20Regulation.pdf](http://www.lrit.com/documents/imo_resolutions/Resolution%20MSC.202(81)%20-%20LRIT%20Regulation.pdf).

<sup>3</sup> A contracting government is any government that is signed up as a member of the IMO.

<sup>4</sup> <http://www.imo.org/OurWork/Safety/Navigation/Pages/LRIT.aspx>

- A Flag State (i.e. any state that operates a flag for ships to sign up to) may track ships within its own fleet anywhere in the world.
- A Port State (i.e. any state with ports) may set its own requirements for ships that have indicated that they intend to call at its ports.
- A Coastal State (i.e. any state with a coastline) may obtain tracking information for ships navigating within a distance up to 1000 nautical miles off their coast. This applies to ships not intending to call and not flying that state's flag - in other words, ships on innocent passage or exercising freedom of navigation.
- Contracting Governments can request information on ships in an area where a SAR operation is underway.

New Regulations are required in the UK, as a Flag State, in order to enable the MCA to enforce the requirements of the amendment to the SOLAS convention on UK registered ships. The responsibility of ensuring that ships comply with relevant IMO conventions lies with the flag States through their national legislation. Secondary to that, IMO conventions are enforced by the Port State Control regime that operates worldwide through 9 regional Memorandums of Understanding (MoUs) operated by individual Port States.

In addition, Directive 2009/17/EC requires the Government to have legislation that places an obligation to carry appropriate LRIT equipment when calling at the port of a member state on all ships that the SOLAS regulation would apply to. This differs slightly from the SOLAS requirement that applies to all international voyages, but in implementing the SOLAS requirement, it covers the requirement of the Directive.

## **2. Problem under Consideration**

The problem under consideration is how to improve maritime security, safety and environmental protection. With regards to maritime security, there is a potential threat to the UK as a Coastal State. This is difficult to quantify but this policy is designed to help assist with the detection of such threats. In addition, although it is not the main focus of the policy, wider safety and environmental risks can also be addressed through this measure. For example, a number of costs result from the actions of users of maritime transport but are not incurred by them. These costs are known as 'external costs'. In particular, a number of 'external costs' result from the impacts of maritime transport on the environment. This includes the 'external costs' that arise as a result of water pollution. These 'external costs' can arise in the course of normal activity in the maritime transport sector, as a result of accidents or due to illegal activity.<sup>5</sup> According to MCA Incident Statistics, there are an average of 600 commercial shipping accidents per year and over 1000 pollution incidents per year in UK waters.

LRIT provides secure reliable and auditable 6 hourly position reports so that Flag States can monitor the position of their ships worldwide and Coastal States can monitor ships within a declared sea area of up to 1000 nautical miles. This provides the underpinning information in the recognised maritime picture, which provides the foundation for improved ship traffic monitoring and incident response (e.g. to shipwreck collision, piracy, pollution and terrorism). Other technologies (e.g. AIS, radar and visual) only provide the position of ships out to a reliable range of 30 Nautical miles. LRIT is not constrained in this way because it relies on satellite communication to relay ship's positions to the member or coastal states.

## **3. Rationale for intervention**

The purpose of LRIT is to identify and locate ships carrying LRIT equipment. This will help with the assessment and mitigation of shipping security risks. It will also assist with search and rescue (SAR) operations and environmental protection.

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<sup>5</sup> European Commission Joint Research Centre (2009) External costs of Transportation Case study: maritime transport. Available at <http://publications.jrc.ec.europa.eu/repository/handle/111111111/7577>.

The uses for which LRIT is used to benefit maritime security are beyond the classification of this document. With regards to SAR operations, LRIT has been used on several occasions to generate a SAR Surface Picture (SURPIC)<sup>6</sup>, which identifies other ships in proximity to a casualty. Often those ships are the only available rescue asset when the casualty is at considerable distance from the coast. With regards to environmental protection, early warning of the location of a ship involved in a pollution incident allows more time for response. Furthermore, correlation between historical LRIT track data and CleanSeaNet<sup>7</sup> satellite images can permit the identification of polluting ships.

The amendment to the SOLAS convention and Directive 2009/17/EC introduced requirements for certain ships engaged in international voyages to carry LRIT equipment. Government intervention is required to give the MCA the power to enforce these requirements. Enforcement powers are needed to ensure UK ships fulfil their obligation to comply with these requirements in order to realise the benefits associated with maritime security, safety and environmental protection; and ensure UK ships are not detained abroad by foreign port state control (PSC) inspectors as the number of detentions is taken into account for the ranking of the UK Flag on the various PSC league tables. This requires the UK Regulations to be introduced to implement these requirements in UK law by amending the 'The Merchant Shipping (Safety of Navigation) Regulations 2002' (Statutory Instrument 2002/1473). Government intervention is necessary because a new Statutory Instrument is required and it is the government's responsibility to introduce new Statutory Instruments.

A legislative measure is also needed in this instance to fulfil the obligations under the European Directive and avoid infraction proceedings. The obligations under the European Directive are not as extensive as the SOLAS V requirement, so the implementation of the SOLAS V requirement in the UK Regulations goes beyond the EU requirements. However, it is considered that this does not represent gold plating as the UK Regulations are required to fulfil the UK's obligations under SOLAS.

#### **4. Policy objective**

The objectives of the UK Regulations are to improve maritime security, safety and environmental protection by enabling the UK to enforce requirements in the amendment to the SOLAS convention and Directive 2009/17/EC for certain ships engaged in international voyages to carry LRIT equipment. The UK Regulations will enable ships carrying LRIT equipment to be identified and located. This will help to assess and mitigate shipping security risks as well as to assist with SAR operations and environmental protection.

By introducing the UK Regulations, the UK would also comply with its obligations to implement the amendment to the SOLAS convention and the LRIT requirements of Directive 2009/17/EC in UK law.

#### **5. Options considered**

##### **5.1. Do nothing**

Doing nothing is not considered a viable option. As a contracting government to the SOLAS convention, the UK is obligated to implement amendments to the SOLAS convention and the current UK policy is to implement amendments to the SOLAS convention into UK domestic legislation. Not doing so would be contrary to current government policy and leave the UK open to criticism from the IMO.

Additionally, the LRIT carriage requirement exists in Directive 2009/17/EC and the deadline for implementation of this Directive, including the LRIT requirement, was November 2010. The European Commission have already begun infraction proceedings against the UK by issuing an Article 258 letter, received on the 27th January 2011. If the implementation is not completed, the European Commission will eventually refer the matter to the European Court of Justice (ECJ), which will lead to substantial financial penalty for the UK.

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<sup>6</sup> This is typically used in the first stage of responding to a SAR incident.

<sup>7</sup> The CleanSeaNet service is a European system developed for the detection of oil slicks at sea using satellite surveillance on request of the Commission and all EU and EFTA Coastal States.

## **5.2. Option 1: Introduce the UK Regulations**

Option 1 is the preferred option as it would give the MCA the necessary power to enforce the carriage of LRIT equipment by affected ships. It would also avoid international scrutiny and the risk of infraction proceedings.

The UK Regulations would apply SOLAS Regulation V.19-1 to all UK ships on international voyages that fall under the scope of SOLAS Regulation V.19-1. Affected ships operating in Sea areas A2, A3 and A4 would be required to have LRIT systems fitted. The LRIT systems would need to conform to the recognised IMO standard and would need to be switched on and transmit the following information: the identity of the ship, the position of the ship (latitude and longitude), and the date and time of the position provided.

Non-legislative options are not feasible because without establishing the provision in legislation the UK remains open to infraction proceedings from the European Commission. In addition, the UK needs the power to penalise those ships that do not comply with the requirement, which is only possible through legislation.

## **6. Costs and Benefits of the UK Regulations (Option 1)**

To develop the evidence base for this impact assessment, a range of evidence has been collected (e.g. details of the prices of conformance tests and LRIT equipment), and consultees were invited to submit additional evidence as part of the consultation (see below for details). In this impact assessment, the costs and benefits of the UK Regulations (Option 1) have been monetised to the extent that is possible on the basis of the available evidence base. However, given the limitations of the available evidence base that are explained in this impact assessment, it has not been possible to monetise some of the costs and all of the benefits of Option 1 (e.g. Section 6.3 of this impact assessment explains why it has not been possible to monetise any of the benefits of Option 1). Where it has not been possible to monetise a cost or benefit, a full qualitative description of the cost or benefit has been provided in this impact assessment.

The UK Regulations and the accompanying Impact Assessment (IA) and Marine Guidance Note (MGN) have been consulted on over a 6 week period from August to September 2011. The consultation package was sent out to stakeholders and interested parties, including the MAIB, The Harbour Master's Association, the General Lighthouse Authorities, the British Ports Association, the Health and Safety Executive, the Nautical Institute and the Chamber of Shipping. Five responses were received to this consultation. All comments were positive. Only one of the five responses was substantive and raised two minor operational queries that have been addressed without any impact on the legislation. However, no additional evidence on the costs and benefits of Option 1 was received.

### **6.1. Sectors and groups affected**

#### **UK ships**

On the basis of MCA data<sup>8</sup>, it is estimated that the UK Regulations could affect around 800 UK ships; this is the number of UK ships trading internationally, outside of Sea Area A1.

However, consideration needs to be given to the legislation that affected ships would be subject to when calling at ports in other countries under the Do Nothing scenario.

Because ships operating in Sea Areas A3 and A4 are already required to carry Satellite communications equipment by other legislation, it has been relatively easy and inexpensive for those ships to adapt that equipment to comply with the additional LRIT requirements. Lack of evidence of ships non-conforming, in the form of no detentions for UK ships overseas, supports the assumption of widespread compliance with the LRIT requirement by UK ships operating internationally.

The number of UK ships that are not complying with the LRIT requirements is currently estimated to be around 9. This is based on the latest data provided by the MCA Team that handle the administration of

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<sup>8</sup> These data are taken from the MCA's monitoring of its flag vessels and their equipment testing records and of ships' integration into the LRIT database, unpublished for security reasons.

the UK Flag and have the task of integrating UK ships into the EMSA Database of internationally operating ships. UK Ships can only be integrated when they comply with all requirements, including LRIT carriage. No additional evidence on the number of UK ships that are not currently complying with the LRIT requirements was received during the consultation.

Therefore from the 800 UK ships that would need to comply with the LRIT requirements under the UK Regulations, only about 9 are estimated to not already be complying. However, the MCA consider that it is highly likely that these ships have the necessary equipment and testing and only minor technical reasons are stopping them from integrating. This is because the amendment to the SOLAS convention entered into force on 1 January 2008 and applies to vessels operating internationally, so despite UK legislation not yet being in place, these vessels will have needed the equipment to operate internationally and known that UK legislation was imminent. Therefore, the MCA consider that it is highly likely that equipment will have been bought and installed already in many cases.

### Non-UK ships

The UK Regulations would also apply to non-UK ships that call at UK ports.

### Micro businesses

Micro businesses are not specifically exempted as the UK Regulations affect all ships that fit the criteria, as per the requirements in both SOLAS and the Directive. Any such ships operating for micro businesses would therefore be affected.

## **6.2. Costs of the UK Regulations (Option 1)**

### **6.2.1. Costs related to UK registered ships**

Compared to the Do Nothing scenario, it is considered that introducing the UK Regulations (Option 1) would only result in additional costs for the owners and / or operators of UK registered ships that are not already complying with the requirements of the UK Regulations. In this impact assessment, the costs that have already been incurred by the owners and / or operators of UK registered ships that are already complying with the requirements of UK Regulations are not counted as costs of Option 1.

It is estimated that only around 9 UK ships are not complying with the LRIT requirements. For any UK registered ships that are not already complying with the requirements, the UK Regulations would result in additional costs that would depend on the equipment that is already fitted to these ships and whether conformance testing is required. It should be noted that the MCA consider that there are only minor technical reasons preventing many of these vessels from complying and that these issues are being resolved as an ongoing concern (i.e. not all of these vessels would need to undertake conformance testing or need new equipment).

LRIT data can be transmitted by using satellite communication equipment already fitted on many ships, such as Inmarsat C, mini-C or D+. Inmarsat C terminals can be integrated with a wide variety of navigation systems to provide a highly reliable, round-the-clock, global position-reporting capability. Position data derived from the terrestrial systems, satellite-based position fixing systems such as the Global Positioning System (GPS) or Glonass, and on-board dead-reckoning equipment can be transmitted automatically on demand or at fixed intervals.

There would be no costs or very small costs for those ships that have the equipment already installed onboard the ship, although there may be a need to test the equipment to ensure that it is compliant with LRIT requirements. There are also systems available which utilise alternative satellite networks and are specifically designed to function within an LRIT infrastructure.

In order to estimate the costs brought about by this requirement, the following table shows the maximum and minimum cost to industry for the purchasing of typical equipment if not already fitted. No additional evidence on the costs of LRIT equipment and conformance tests was received during the consultation.

**Table 1 – Estimated Costs of LRIT Equipment and Conformance Tests**

Typical New System (Per Ship)	Equipment Costs*	Installation Costs*	Conformance Test Costs**
Inmarsat C (TT-30206)	£4,500	£500	£150
Inmarsat Mini-C	£3,600	£500	£150
Inmarsat C (JUE85C)	£3,300	£500	£150

\* These costs are taken from online quotes obtained from a reputable marine equipment supplier<sup>9</sup>.

\*\*This is the average cost of Conformance Testing charged by the six UK Authorised Testing Application Service providers (ATASPs<sup>10</sup>).

#### **a.) Conformance Test Costs [Monetised]**

The MCA obtained details of the prices of conformance tests from a number of UK ATASPs. Based on the range of prices charged by UK ATASPs, equipment testing is estimated to cost between £60 (the lowest price charged by these ATASPs) and £210 (the highest price charged by these ATASPs), with a Best estimate of £150 (the average price charged by these ATASPs).<sup>11</sup>

On the basis of MCA data<sup>8</sup>, the MCA's latest estimate is that approximately 50% of the vessels that are not yet compliant (approximately 5 vessels) would need retesting of faulty equipment to aid integration with the EMSA Database<sup>12</sup>. No additional evidence on the number of vessels that would need to retest faulty equipment was received during the consultation.

Therefore, this cost is estimated at approximately £300 to £1,050, with a Best estimate of approximately £750. However, it should be noted that the actual costs that would be incurred per vessel and the actual number of vessels that would be incur these costs are both uncertain.

#### **b.) New System Costs [Monetised]**

The majority of the ships affected by the UK Regulations, trading internationally, already have satellite communications systems fitted, as mentioned above, and LRIT will work on these systems once new software is installed and tested.

In a small number of cases, non-compliant vessels that retest their equipment would still be unable to integrate and would have to invest in new equipment. On the basis of MCA data<sup>8</sup>, the MCA's latest estimate is that approximately 20% of the vessels that are not yet compliant (approximately 2 vessels) would have to purchase new equipment in this way<sup>13</sup>. No additional evidence on the number of vessels that would need to invest in new equipment was received during the consultation.

Table 1 indicates that the estimated costs of purchasing and installing new equipment would range from a minimum of £3,800 up to £5,000 (including installation costs) as a one-off compliance cost. In the absence of any evidence on the most likely point in the range, the mid-point of the range has been selected as the Best estimate in line with the Better Regulation Executive's Impact Assessment Toolkit.

Therefore, this cost is estimated at approximately £7,600 to £10,000, with a Best estimate of approximately £8,800. However, it should be noted that the actual costs that would be incurred per vessel and the actual number of vessels that would incur these costs are both uncertain.

<sup>9</sup> These quotes are available in the public domain on supplier websites, and prices will vary with market conditions.

<sup>10</sup> The UK has appointed six ATASPs to conduct conformance tests on UK flagged ships. These organisations test ship's LRIT equipment in the UK and overseas when required in accordance with test criteria issued in IMO guidance. Their proposals to supply these services were supplied in commercially sensitive proposal documents. Multiple ATASPs were chosen to provide ship owners with some market choice and a good geographic dispersion.

<sup>11</sup> All figures have been rounded up to the nearest £10.

<sup>12</sup> The exact numbers of vessels varies with time, and their details and reasons for not being integrated into the LRIT system are beyond the classification of this document.

<sup>13</sup> This estimate is based on the length of time that some ships have had to try to integrate into the database, and the number of equipment re-tests which have been required.



### **c.) Other Potential Costs [Non-monetised]**

Under IMO direction, there is no cost to ship operating companies for transmitting LRIT information through Satellite Service Providers – the system is funded through Contracting Governments paying for the data they wish to receive. There is no annual re-test requirement, and no on-going costs associated with the UK Regulations have been identified.

Some ad hoc costs could potentially arise in future; for instance, ships which re-Flag to or from the UK Ship Register could have to re-test their LRIT equipment if the ATASP is not mutually recognised by the gaining and losing Flag Administrations. However, the UK has chosen popular, competent, UK and international ATASPs, which means this cost is expected to be minimal. Given the uncertainty about whether these potential costs would arise, it has not been possible to monetise these potential costs in this impact assessment.

In addition, there could be some further unanticipated costs relating to system repair or maintenance, if the ATASP goes into administration or has proved unreliable, or if the ship owner changes the primary communications equipment for a separate reason and has to re-install LRIT software on a new system. However, the level of these costs is very uncertain and it has therefore not been possible to monetise these costs in this impact assessment.

Furthermore, it is possible that some ship operators could incur familiarisation costs as a result of the UK Regulations due to the need for operators to familiarise themselves with the Regulations. 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.

No additional evidence on these non-monetised costs was received during the consultation.

### **d.) Summary**

The total monetised costs to the operators of UK registered ships have been estimated at approximately £7,900 to £11,050, with a Best estimate of approximately £9,550. Furthermore, it should be noted that some non-monetised costs to the operators of UK registered ships have also been identified in this impact assessment.

It should also be noted that the costs to the owners and operators of UK registered ships would only represent a cost to the UK if they fall on UK entities (e.g. UK businesses or consumers). However, UK registered ships are not necessarily UK owned, and UK registered ships do not necessarily operate to and from UK ports. Nonetheless, given the limitations of the available evidence base, for the purpose of this impact assessment, the costs to UK registered ships are used as a proxy for the costs to the UK.

#### **6.2.2. Costs related to non-UK registered ships**

Costs to the owners and operators of non-UK registered ships would represent a cost to the UK if they fall directly on UK businesses or are passed onto other UK entities (e.g. other UK businesses or UK consumers). As the UK Regulations would apply to non-UK registered ships that call at UK ports, there could also potentially be some additional costs for non-UK registered ships. However, these costs are very uncertain (e.g. it is uncertain how many non-UK registered ships would be affected by the UK Regulations). Therefore, it has not been possible to monetise any of the potential costs to non-UK registered ships in this impact assessment. No additional evidence on these non-monetised costs was received during the consultation.

#### **6.2.3. Costs to Government**

The Government bears all costs associated with LRIT information that it requests and receives from the relevant data centre. However, LRIT information for SAR purposes is provided free of charge by all participants. These costs would not change as a result of the UK Regulations.

In addition, there should be no other additional costs to Government as a result of the UK Regulations. For example, the enforcement of LRIT requirements would be incorporated into the UK PSC inspection regime at no additional cost.

#### **6.2.4. Exemptions**

It should be noted that there is the possibility that exemptions could be issued to ships passing through Sea Area A2 to get to Sea Area A1, which could lessen the impact of purchasing, installing and testing new equipment on certain ships. This exemption process could be introduced under a different existing SOLAS Regulation that allows government's to introduce exemption processes and is not a part of the UK Regulations. Potential exemptions would be considered on a case by case basis using risk as the determinant. For passenger ships, it is unlikely that the MCA would grant any exemptions because of the utility of LRIT in the SAR function. However, where ships are already fitted with GMDSS equipment which is suitable for Sea Area A2, and are certified accordingly, there may be cases where a short voyage in Sea Area A2 could be accomplished with adequate ship-shore communications. Other types of ship which need to transit Sea Area A2 on a single journey basis, e.g. to go to or from refit, could also be exempted provided that permission is obtained from all the coastal states involved in the voyage. The time in Sea Area A2 would be minimised by careful passage planning and alternate 6 hour position reports would need to be made using other communications to the coastal states. Ships which are certified for repeated operations in Sea Area A2 would not be granted LRIT exemptions.

#### **6.3. Benefits of the UK Regulations (Option 1)**

The primary benefit of LRIT to the UK as a Coastal State would be as a means of improving security as there would be a better understanding of ship arrivals and the whereabouts of ships within the UK SAR Region, the UK Pollution Control Zone, and eventually the UK Exclusive Economic Zone. The system is designed to reduce the potential threat to the UK as a Coastal State as it would be possible to track ships at a distance. The exact uses for which LRIT is used to benefit maritime security are beyond the classification of this document.

There would also be secondary benefits to LRIT. LRIT is a means of improving safety and environmental protection. Increased reporting in accordance with LRIT would give a clearer picture of the whereabouts of ships at longer range than current reporting systems (AIS), and the number of ships intending to visit UK ports. Early warning of the location of a ship involved in a pollution incident allows earlier response. Furthermore correlation between historical LRIT track data and CleanSeaNet satellite images can permit the identification of polluting ships.

There is also the added benefit of LRIT for Search and Rescue. If any ship is involved in an incident, the transmission of LRIT data from the casualty and surrounding ships would be used to coordinate SAR. LRIT has been used on several occasions to generate a SARSURPIC, which identifies other ships in proximity to a casualty. Often those ships are the only available rescue asset when the casualty is at considerable distance from the coast.

The costs associated with maritime pollution incidents can be significant. For example, the costs of a serious oil spill can run to many millions<sup>14</sup>, although it is recognised that the cost of typical pollution incidents in UK waters is significantly lower. In addition, DfT WebTAG guidance<sup>15</sup> suggests an average value of avoiding a fatality of around £1.6 million in 2009 prices in the context of road users, which WebTAG suggests should be used in the appraisal of maritime interventions in the absence of other evidence. This is consistent with the IMO current criteria, within their Formal Safety Assessment, for costs and benefits. This evidence provides some context since it illustrates the potential for benefits to arise from interventions that make the marine environment safer and better controlled. However, it should be noted that there is no evidence available on the extent that LRIT would contribute to delivering such benefits as LRIT on its own has not been assessed for its contribution to increase safety, security and environmental protection (e.g. the IMO's Formal Safety Assessment method was not undertaken in the case of LRIT, as they determined the situation was urgent and measures could not be delayed), and no other evidence on the benefits of LRIT has been located or was received during the consultation.

It should be noted that due to the high proportion of UK vessels that are already carrying LRIT systems, the benefits of the LRIT would be felt in the Do Nothing scenario, albeit in a reduced way because of the

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<sup>14</sup> For example, a discussion of the costs associated with historical oil spills, which includes some examples, is available on the International Tanker Owners Pollution Federation Limited website at <http://www.itopf.com/spill-compensation/cost-of-spills/>.

<sup>15</sup> <http://www.dft.gov.uk/webtag/documents/expert/unit3.4.1.php>.

lack of confidence in getting a complete picture when LRIT carriage is not required by legislation. The UK Regulations should therefore assist in delivering these benefits. However, it should be noted that there is no evidence available on the extent that the UK Regulations would contribute to delivering additional benefits relative to the Do Nothing scenario (e.g. no evidence on this was received during the consultation). Moreover, since UK vessels have already complied in great measure, and the MCA considers that establishing the benefits of LRIT in isolation would be a complex process (as LRIT is one part of a wider fabric of maritime surveillance and risk mitigation, and its effects have not been isolated), the MCA considers that it would not be proportionate to undertake or commission any additional analysis or research in order to attempt to monetise these benefits. Therefore, it has not been possible to monetise any of the benefits of Option 1 in this impact assessment, and the MCA considers that this qualitative assessment represents a sufficient assessment of the benefits of Option 1.

## **7. Wider impacts of the UK Regulations (Option 1)**

### **7.1. Equalities Assessment**

The UK Regulations would have no effect, positive or negative, on outcomes for persons in relation to their age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation. An equalities proforma is included at Annex 1.

### **7.2. Small Firms Impact Test**

The new requirements have been in force internationally since 2008. Consequently, it is anticipated that the UK Regulations would have a limited impact because most ships to which it applies are already operating in accordance with the requirements of the UK Regulations.

In any case, the new requirements would only apply to ships travelling internationally and therefore many small firms would be unaffected.

No additional evidence on the impacts on small firms was received during the consultation.

### **7.3. Competition Assessment**

There are no restrictions on the ability of suppliers to choose the price, quality, range or location of the SATCOM equipment needed, and so it is not considered that competition would be adversely affected by the UK Regulations.

The UK appointed a variety of service providers (six in total) in October 2007 in preparation for the amendment to the SOLAS convention to test the LRIT equipment of ships so that ship operating companies had choices in price and quality. Appointing six providers also helped to reduce the cost to ship operating companies by introducing competition into the market.

As this is an international requirement, all internationally operating ships must comply. This means there should be a level playing field between ships from different flags.

No additional evidence on the impacts on competition was received during the consultation.

## **8. Enforcement, Sanctions and Monitoring**

Compliance falls into three areas:

1. UK ships in the UK. MCA Surveyors, or those delegated on their behalf, survey ships in order to award or renew the safety equipment certificate (SEC). Part of this survey will determine that LRIT is carried and functioning. If it is not, the SEC cannot be issued/reissued/renewed and therefore the ship would be barred from sailing.
2. UK ships overseas. UK ships calling at ports overseas are subject to PSC. Part of this inspection will include a check that the SEC includes the carriage of LRIT equipment and the effective operation of LRIT. If overseas PSC finds that a UK flagged ship's LRIT equipment is not operational, the ship can be awarded a deficiency or ultimately be detained pending rectification. The UK Regulations would not affect overseas PSC inspections. However, UK ships that are

repeatedly detained overseas may be subject to the punitive measures from the UK under the UK Regulations.

3. Foreign ships visiting the UK. The UK Regulations would apply to non-UK ships that call at UK ports. These ships would be inspected under the UK PSC regime.



Under the Do Nothing scenario, ships which are detained, in cases 2 and 3 above, would be required to pay fees to the Port State. This would not change under the UK Regulations.

## **9. One-In, One-Out (OIOO)**

As this is an international measure, it is out of scope of OIOO.

## Annex 1 – Statutory Equalities Impact Assessment

<p><b>Name of the function, policy or strategy:</b> Implementing amendments to SOLAS V into UK Regulation  <b>Proposed:</b> Regulation</p>							
<p><b>Person completing the assessment:</b> Richard Jackson, Maritime and Coastguard Agency  <b>Date of assessment:</b> 15/01/11</p>							
<p><b>Purpose of the function, policy or strategy:</b> To amend SI 2002/1473 Merchant Shipping (Safety of Navigation) Regulations, to incorporate the amendments to SOLAS V.</p>							
<p>Questions - Indicate Yes, No or Not Known for each group</p>	Gender	Religion or Belief	Age	Disability	Ethnicity and Race	Sexual Orientation	Transgender
Is there any indication or evidence that different groups have different needs, experiences, issues or priorities in relation to the particular policy?	No	No	No	No	No	No	No
Is there potential for, or evidence that, this policy may adversely affect equality of opportunity for all and may harm good relations between different groups?	No	No	No	No	No	No	No
Is there any potential for, or evidence that, any part of the proposed policy could discriminate, directly or indirectly? (Consider those who implement it on a day to day basis)?	No	No	No	No	No	No	No
Is there any stakeholder (staff, public, unions) concern in the policy area about actual, perceived or potential discrimination against a particular group(s)?	No	No	No	No	No	No	No
Is there an opportunity to better promote equality of opportunity or better community relations by altering the policy or working with other government departments or the wider community?	No	No	No	No	No	No	No
Is there any evidence or indication of higher or lower uptake by different groups?	No	No	No	No	No	No	No
Do people have the same levels of access? Are there social or physical barriers to participation (e.g. language, format, physical access/proximity)?	No	No	No	No	No	No	No

 <b>Regulatory Policy Committee</b>	<b>OPINION</b>	
<b>Impact Assessment (IA)</b>	The Merchant Shipping (Safety of Navigation) Regulations 2011 (“the UK Regulations”)	
<b>Lead Department/Agency</b>	Maritime and Coastguard Agency – Department for Transport	
<b>Stage</b>	Final	
<b>Origin</b>	International	
<b>Date submitted to RPC</b>	28/10/2011	
<b>RPC Opinion date and reference</b>	08/11/2011	RPC11-DFT-0989(2)
<b>Overall Assessment</b>	<b>GREEN</b>	
<p>The IA is fit for purpose. The costs and benefits of the policy have been adequately assessed.</p>		
<p><b>Identification of costs and benefits, and the impacts on small firms, public and third sector organisations, individuals and community groups and reflection of these in the choice of options</b></p> <p><i>Costs and Benefits.</i> The proposal will enable the UK to comply with its obligations in relation to the International Convention for the Safety of Life at Sea (SOLAS); and the Long Range Identification and Tracking (LRIT) requirements of Directive 2009/17/EC. The IA indicates that the vast majority of UK registered ships are already complying with these requirements. The costs and benefits for the proposal have been adequately assessed.</p>		
<p><b>Have the necessary burden reductions required by One-in, One-out been identified and are they robust?</b></p> <p>The proposed measure goes beyond the minimum requirements of Directive 2009/17/EC but only in so far as to fulfil the UK’s obligations under the International Convention for the Safety of Life at Sea. The proposal is therefore out of scope of One-in, One-out.</p>		
<b>Signed</b> 	<b>Michael Gibbons, Chairman</b>	