Title: Electronic Registration of Ships	**Impact Assessment (IA)**
IA No: DfT00373	**Date:** 21/11/2016
RPC Reference No: RPC-3562(1)-DfT-MCA	**Stage:** Final (Validation)
Lead department or agency: Maritime and Coastguard Agency	**Source of intervention:** Domestic
Other departments or agencies: Department for Transport	**Type of measure:** Secondary legislation
	Contact for enquiries: charlotte.clarke@mcga.gov.uk
Summary: Intervention and Options	**RPC Opinion:** Awaiting Scrutiny

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANDCB in 2014 prices)	**One-In, Three-Out**	**Business Impact Target Status**
£8.22m	£8.22m	-£0.9m	In scope	Qualifying provision

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

For a ship owner to become registered under the UK flag, they must register with the Maritime and Coastguard Agency (MCA). Annual renewals, changes to the original application, address of owner, posts/positions or name changes also require an application to update the details of the registration. This is inefficient and creates a cost to business with the current system as the application must be completed on a paper form, and all the evidence required must have physical copies posted to the MCA. This is time consuming for both users (applicants) and the MCA. In order to change the method of application to allow electronic registration, and allow the MCA to accept electronic copies of evidence, a regulatory change is required.

What are the policy objectives and the intended effects?

The policy objective is to allow a more efficient system for registering vessels, reducing costs for both the MCA and shipowners. We intend to keep electronic registration optional for ship owners, and as such, users would have the flexibility to choose the approach that best suits them.

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

Two policy options have been considered:

1. The **Do Something** case **(Policy Option 1)** would allow a switch to electronic registration as an option for users of the system. This would not be compulsory so users could continue to use the postage system should they believe the cost to business to be greater than zero.
2. The **Do Nothing** case would be continued use of the paper-based postage system.

As policy option 1 offers greater flexibility for ship owners, whilst still leading to eventual cost savings for the MCA and more immediate cost savings to ship owners, this is the preferred option.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: January/2021

Does implementation go beyond minimum EU requirements?		N/A		
Are any of these organisations in scope?	**Micro** Yes	**Small** Yes	**Medium** Yes	**Large** Yes
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)		**Traded:** N/A	**Non-traded:** N/A	

I have read the Impact Assessment and I am satisfied that (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 : John Hayes **Date :** 04 September 2017

Summary: Analysis & Evidence

Policy Option 1

Description: **Allow electronic registration of ships**

FULL ECONOMIC ASSESSMENT

Price Base Year: 2016	PV Base Year: 2016	Time Period Years: 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 0.02	**High:** 41.62	**Best Estimate:** 8.22

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.5		0.1	**1.6**
High	0.5	1	0.1	**1.2**
Best Estimate	0.5		0.1	**1.4**

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

There is a cost to the MCA in running the IT systems needed for electronic registration. This includes a one off transition cost for the MCA to develop the system and ongoing annual costs for software to support the system. This includes support, maintenance and cloud hosting (storing and accessing data over the internet). We do not expect there to be any additional costs to ship owners from dealing with an electronic system over paper-based registration and should there be we would assume they would continue to use the old system and therefore also not have additional costs.

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

For vessel owners there would be some familiarisation costs. This would affect all users regardless of whether they chose to electronically register or not. This is because they would have to make an informed decision on what method to apply. We believe these are most appropriately non-monetised costs as the online application and paper-based application will be exactly the same and therefore we would expect costs to be negligible.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.0		0.1	**1.2**
High	0.0	1	5.0	**43.2**
Best Estimate	0.0		1.1	**9.6**

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

Benefits would fall to users and the MCA. The MCA would benefit from time savings from not having to manually input the registration data. Users may benefit from time savings although the application form itself would remain the same on both paper and electronically. There would be savings made by the reduction in postage costs (such as stamps) and some may benefit from being able to trade earlier than expected (as vessels cannot operate unless registered).

The opportunity cost from not being able to trade (missed profit), could come into effect for any ship that may be ready to trade, but has an unexpected delay as a result of the application process and therefore loses the benefits of trading for the length of period affected.

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

There is potential for a few smaller non-monetised benefits. We have identified potential time savings and the benefits in having more ways of applying (increased flexibility). These are considered not to be significant enough to warrant inclusion in the analysis.

Key assumptions/sensitivities/risks **Discount rate (%)** 3.5%

The electronic registration would be optional and so sensitivities have been made to the number of users choosing to electronically submit. This is very uncertain so a range of 20% to 80% has been taken with a central 40%. The high scenario is the target uptake, the central scenario is the expected uptake and the low scenario is a low boundary. These are based on an industry experts' opinions on uptake.

Annual software costs make up a large percentage of the cost involved and have a range with the central case being the current estimate based on previous experience of software costs by the MCA.

Due to commercial sensitivities, the potential profits of maritime businesses are not readily available and as such the opportunity costs from lost trade are a range to reflect that ship size varies from large cruise ships to small fishing boats.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: -4.5
Costs: 0.2	Benefits: 1.1	Net: 0.9	

Evidence Base

1 Background

1.1 Problem under consideration

All vessels must be registered to a state. The vessel then becomes a territorial extension of the state to whose flag it carries. This gives a set of rights and privileges from the nation to which it is registered.

The Maritime and Coastguard Agency (MCA) is the body that deals with the registration of ships for the UK, and for the regulation of ships registered under the UK flag. The MCA sets the criteria, application form, and required evidence for ship registration, and is responsible for deciding whether to approve a registration.

The process currently involves a paper-based form being submitted to the MCA by post along with originals or copies of supporting evidence. This is then received, checked for eligibility and returned by postage. Technology exists to allow the electronic completion of ship registration applications, and for the submission of supporting evidence electronically.

1.2 Rationale for Intervention and Policy Objectives

The current paper-based system can take up to a week for documents and applications to be received via post. Electronic systems can make this process instantaneous. This represents cost savings (e.g. postage costs) and time savings which can translate into monetary savings for both the MCA and users of the system. Secondary legislation is needed to allow the MCA to accept electronic registration. The certificate which is a hard copy will be returned by postage under all options.

2 Description of options considered

Two options have been considered:

- **Do nothing:** This would keep the system of registration as it currently is with a paper and postage system for applications.
- **Do something (Policy Option 1):** An electronic registration system would be created to give people the option (it would not be mandatory) to register electronically postage element. The certificate of approval would still be sent by postage upon approval.

2.1 Assessment of costs and benefits of policy option 1

2.1.1 Monetised Costs

The majority of the costs are from the implementation of a new electronic system. These costs can be split into the cost to the MCA to introduce the new system and the costs of supporting the system:

2.1.1.1 Cost of building the system (Transition)

The cost of developing the system to electronically register ships is £479,000. This is the bid value from the supplier. The MCA sent the proposal to nine suppliers and received one bid which was assessed under standard MCA procedure for appropriateness and value.

2.1.1.2 Staff costs (Transition)

The development of the IT system would also require staff time including external and internal product owners, a business change official, project manager and coordinator, testers and a technical design architect. The MCA project these costs to be £122,346 in year one and £112,640 in year two. The breakdown of these costs are:

Staff costs:	Cost over 2 years
External Product Owner (Sourced from G-Cloud)	£75,000

Internal Product Owner (HEO) 33% FTE	£17,562
Business Change Role (Fixed Term Appointment - HEO)	£17,562
Project Manager (Capitalised MCA staff - HEO)	£58,482
Project Coordinator (Capitalised MCA staff - EO)	£16,584
Testers at RSS (Fixed Term Appointment - 1 x AO)	£40,090
Technical Design Architect (Sourced from G-Cloud)	£9,706 (for 15 days)
Total	**£234,984**

2.1.1.3 Cost of supporting the system (Recurring)

There will be annual costs paid to another company to license out the system used. It has been estimated these costs would be £103,800 although this would not be confirmed until after they have gone out to market. These estimates are based on an estimated £8,000 cost for cloud hosting (internet hosting of data based on Skyscape, a cloud service for the public sector) and estimated £95,800 for support and maintenance based on industry practice of 20% of the development costs. To allow for uncertainty we have taken a range of £78,500 to £128,500 (£25,000 over and under the central estimate to account for variation based on estimated variance IT projects often have).

2.1.2 Non-Monetised Costs

We would expect there to be some costs to vessel owners from changing to electronic registration such as familiarisation costs. However, we do not expect these to be significant as the application form for both methods will be the same, and we expect businesses will need to re-familiarise themselves with the application process every so often regardless of the method used.

The incremental familiarisation cost of adding an additional channel through which applications can be made is not possible to estimate. Though as the system will not be compulsory, and will still allow postage applications, we can assume that if the cost to the vessel owner was significant they would choose not to undertake an electronic registration. As such, any uptake to electronic registration can be assumed to have minimal cost to vessel owners. In our assessment we have therefore assumed no costs to users, either monetised or non-monetised. The MCA will make users aware via government pages and when customers ring up with queries and therefore costs to the MCA will be minimal.

2.1.3 Total Costs

The total undiscounted costs over a 10-year appraisal period are summarised below:

Undiscounted	Low	Central	High
Costs to MCA	£1,501,986	£1,751,986	£2,001,986
Costs to Build	£713,986	£713,986	£713,986
Software Costs	£788,000	£1,038,000	£1,288,000
Costs to Users	£0	£0	£0
Total Costs	**£1,501,986**	**£1,751,986**	**£2,001,986**

2.1.4 Monetised Benefits

The monetised benefits can be classified into time savings to the MCA and to shipowners (or their agents), savings involved by removing the postage element, and opportunity cost savings from quicker registrations:

2.1.4.1 Benefits to the MCA: Time Savings (Recurring)

Time savings can occur to both the MCA and the vessel owners using the system. The majority of the time savings are to the MCA. Each application requires administration resources from MCA staff. The MCA can identify the tasks that would no longer be needed with electronic registration.

There are 3 possible routes for applications:

- **Correct application first time:** Where the application includes all relevant documents and can be processed as is intended.
- **Rejected application:** The majority of rejected applications do not progress to completion due to users failing eligibility criteria. Rejected applications take only the time to process and check the eligibility.
- **More information required:** With evidence being sent in paper form, in some instances not all the required documents are sent. The MCA must then request additional information. This must then be processed again and checked again before returning to the original process, thus taking much longer under the do nothing scenario than rejected or correct applications.

The following table outlines the time taken for each application under the three routes, for both paper and electronic applications.

	% of applications	Approx. time needed under Do Nothing (mins)	Time saved under Do Something (mins)
Correct application first time	75%	52	27
Rejected applications	5%	38	10
More information required	20%	90	37

The process times are all given times based on MCA process maps. These relate to large commercial ships ("Part 1") ships although each ship type has similar processing times. The split between rejected, more information required and correct applications has been estimated based on previous experience of the process, although the exact figures have not been recorded.

To monetise time savings, we look at staff costs based on the non-London grade payment structure (DfT pay bands). The majority of staff working on these applications will be AO grade with some input from EO grade where needed. Occasionally involvement on challenging cases will be dealt with HEO/G7 colleagues. MCA experience suggests this is 93% AO and 5% EO input, 2% HEO and 0.5% G7 input. The weighted average gross employment costs (given the resource input and wage structure), once non-wage costs of 30% have been taken into consideration, is assumed to be £21 per hour.

Data on the number of applications has been based on administrative data on the number of applications in 2014. The number of applications do not vary significantly from year to year. Registration renewals take place every 5 years. The number of applications (annually) made in 2014 (the latest year available) were as follows:

New Applications	3,558
Changes to application	3,985
Changes to addresses of owner already registered	9,482
Changes to posts and name changes already registered	693
Registration renewals	6,343
Total	**24,061**

2.1.4.2 Benefits to Users: Time Savings (Recurring)

Vessel owners will also see an annual benefit of not having to post applications. This has been valued as a reduction in admin time. The time taken to deal with postage is unknown but expected to be small and therefore a range of 5-15 minutes has been used (with 10 minutes as the central estimate). This is deemed to be reasonable based on a small number of tasks such as printing the application form and sending to a post room/putting in a post box. It is also assumed that those involved in this administrative task would be at a similar grade as those at the MCA dealing with the application. Therefore the wage of the equivalent MCA grade – an AO Hourly wage – has been used (£16.35 including uplift for non-wage costs).

2.1.4.3 Benefits to Users: Postage Costs (Recurring)

Stamp Savings: Vessel owners who use the electronic registration will see reductions in costs associated with postage such as stamp costs. It is assumed that large ships (Part 1) will be large enough in size to use commercial postage rates which smaller ships (Part 2-4) will use standard mail rates. Part 1 ships have been estimated by the cost of Royal Mail's franking service (£0.37), while part 2-4 ships have been estimated by the average cost of the stamp (£0.64). Both are multiplied by the amount of applications received per year (5,389 and 18,672 respectively). Applications requiring more information would be submitted twice by the user and using electronic registration would save these users two stamps (once per application).The application amount is based on one year of data but applications annually are steady. The price of a stamp is based on Royal Mail First Class cost (prices from 29/3/16).

2.1.4.4 Benefits to Users: Opportunity Costs (Recurring)

Postage takes up to 7 days to be received by the MCA and up to an additional 7 days to return the certificate where applications are approved. The electronic registration is sent instantly to the MCA and therefore saves 7 days from the process. The paper certificate would still be posted and thus the 7 days to return remains valid. As such 7 days can be saved in the process. This would however be known to vessel owners upon applying so it would be expected. This may mean they could trade sooner but the overall life of the ship would remain the same and lifetime earnings aren't likely to be significantly affected.

However, where there are unexpected delays in the application process, an opportunity cost arises as vessels are unable to operate until registration is complete, and therefore a loss of trade is possible. We have assumed that vessel owners would gain an additional day of trade as a result of not experiencing unexpected delays associated with postage. The opportunity cost could be up to the 7 days involved but we believe this would be an overestimate. DfT and MCA (who have the most knowledge of the industry to give the best indicative estimates) both believe one day would be the most likely length. It is believed the majority of ship owners would factor in the time needed and therefore only a small percentage of ships are affected by this loss of business. We use a low scenario of 1%, a high scenario of 10% and a central case of 5%. This would affect all applications including renewals and change of details. It is estimated that the small number of applications this covers would not anticipate the delay.

We believe only Part 1 and "Part 2" ships may have an opportunity cost. Part 1 of the register is the large commercial or pleasure vessels e.g. cargo vessels and cruise ships. The building of these vessels take several years but until the 'keel is laid'[1], they cannot register the vessel. Once a vessel is ready the shipping company will want to put it into service quickly, so any delays will impact return on investment and indeed profit. Part 2 of the register is for fishing vessels, most are commercial and they will also be affected by loss of earnings. Part 3 are not commercial so are not included while Part 4 is significantly small enough to make any cost negligible. The number of ships is given by past annual applications, which has remained broadly constant year on year.

As the ship is either new or changing from a non-UK flag to the UK flag, the owner or management of the ship may not expect delays caused from the postage system, and may lose business while waiting for the application to be approved. Calculating the net daily cost of business lost is challenging due to the vast array of possible ships and their uses in Part 1 as well as the information being commercially sensitive and not publicly available. If the ship is not able to be in business, it would be losing all benefits of trading, paying some costs that are made regardless of whether a ship is in use or not but not costs such as in-transition fuel. Therefore these estimates are a net opportunity cost. An internal DfT guide which gives example daily revenues gives a figure of $8,577 (£7,000 when rounded to the nearest £1k). This is multiplied by the unexpected delay and the percentage of applications affected. We create a range of +/- 20% to factor in the uncertainty.

The following table outlines the calculation of the opportunity cost per year from unexpected delays in the registration (and hence the benefit from moving to electronic registration). This is then multiplied by the proportion of ships that switch to electronic registration, which is expected to be 20%, 40% and 80% for the low, central and high cases respectively. The high scenario reflects the MCA's target whilst the central case reflects the expected switch rate. The large range is a reflection of the uncertainty involved with estimating opportunity costs.

	Low	Central	High
Number of ships involved (Part 1 and Part 2 combined)	7,051	7,051	7,051

[1] Laying the keel is the formal recognition of the start of a ship's construction.

Net daily operating profit	£5,600	£7,000	£8,400
Length of unexpected delay (days)	1	1	1
Proportion of ships affected	1%	5%	10%
Opportunity cost per year	**£394,856**	**£2,467,850**	**£5,922,840**

2.1.5 Non-Monetised Benefits

There are a few non-monetised benefits that are considered not significant enough to make worthwhile inclusion in the analysis. These include the saved time it takes to type in a form which is deemed quicker than writing out forms, the option value of more payment options being available as a result of being able to pay online and vessel owners not needing to plan as far ahead to apply as the process will be much faster.

2.1.6 Total Benefits

Total benefits are summarised below:

Undiscounted	Low	Central	High
Benefits to MCA*	**£474,405**	**£948,811**	**£1,897,622**
Benefits to Users	**£888,753**	**£10,200,633**	**£48,303,489**
Time Savings	£65,576	£262,302	£786,907
Stamp Savings	£33,466	£66,931	£133,862
Opportunity Cost	£789,712	£9,871,400	£47,382,720
Total Benefits	**£1,363,159**	**£11,149,444**	**£50,201,111**

* Time Savings

2.1.7 Net Present Value

The low scenario takes the highest costs and lowest benefits, the high scenario takes the lowest costs and highest benefits and the central scenario is between these. The cost and benefits are presented over a 10 year period.

The Net Present Value to the MCA is shown as a range between a net loss of £1.5m and a net gain of £245,000. The Net Present Value to users is between £765,000 and £42m. This creates an overall net present value of -£650,000 to £42m:

Discounted	Low	Central	High
MCA	-£1,410,494	-£786,948	£244,951
Users	£765,011	£8,780,385	£41,578,129
Total	**-£645,483**	**£7,993,437**	**£41,823,080**

2.2 OI3O Status and EANDCB

The policy is in scope for one-in, three-out, scoring against the business impact target (BIT). It is deregulatory as it gives businesses more ways to register their vessels, which is a mandatory process. It is assumed that all costs and benefits to the MCA will be passed on to shipowners via higher/lower fees, though we understand that this process is not automatic. As a result, the equivalent annual net direct cost to business (EANDCB) is -£0.9m.