



Department
for Transport

Government Response to Consultation

**Future Arrangements for the Disposal of Marine Pyrotechnics from the
Pleasure Vessel Sector**

October 2021

Department for Transport
Great Minster House
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London
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Introduction

The consultation sought the views of the pleasure vessel sector on four options that the Department has proposed when reviewing future arrangements of the disposal of marine pyrotechnics from the pleasure vessel sector.

The consultation focussed specifically on marine pyrotechnics carried on board pleasure vessels and did not include those carried on board vessels engaged in commercial activities, such as fishing, the carriage of paying passengers or other similar activities. Furthermore, the purpose of the consultation was not to seek views concerning the use or disposal of electronic devices or any other type of emergency distress signalling equipment; nor did the consultation seek to review the existing statutory requirements and non-statutory recommendations currently in place in the UK for the carrying of pyrotechnics on board pleasure vessels.

The consultation ran from 1 February 2021 to 15 March 2021.

The consultation asked for views on four options that were being proposed. These were: (a) to do nothing; (b) maintain the status quo and continue with the existing arrangements; (c) develop a fully regulated and enforced regime for marine pyrotechnics covering their full life-span or (d) a self-regulated, industry-led set of schemes tailored to meet the diverse needs and varied geographical locations of boat owners.

Responses (which have been anonymised) were invited from those that have either a direct or indirect interest across the pleasure vessel sector, including, but not limited to, pyrotechnic distributors, yachting, sailing, cruising and boating clubs and associations, trade and business federations and professional bodies, emergency services, harbour and port authorities, waste management companies, marinas and local marine services, professional explosives' disposal companies, and those businesses involved in commercial pyrotechnic displays. Furthermore, through social media the views from individual pleasure vessel owners were also sought. In all, not including individual owners, the consultation formally reached out to over 100 organisations across the United Kingdom.

Background

The non-statutory, voluntary flare disposal route that the MCA has facilitated since 2010 (following changes to explosives legislation) is limited and has been made available as a last resort (in the absence of industry developing its own solution) to ensure that out of date marine pyrotechnics from the pleasure vessel sector do not pose a danger to the general public or risk environmental damage in and around the UK coastline. On this basis, the MCA has continued to accept small quantities for disposal from the public. Any time-expired, redundant or damaged marine pyrotechnics may be delivered, through an appointment system, to one of the 18 designated MCA locations around the UK, which includes the one at the RNLI at Poole, Dorset.

The MCA has no legal statutory duty to accept redundant marine pyrotechnics from the pleasure vessel sector but does so on a voluntary basis and at its own discretion. The MCA's current contract with a commercial disposal company costs the general taxpayer £230k - £250k annually. The service does not represent value for money to the taxpayer, in terms of the overall cost for disposing of an individual pyrotechnic (as explained in section 5.2.47) nor is it an effective or convenient solution for pleasure vessel owners since it is a voluntary service and subject to the overriding core business needs of search and rescue obligations and the availability of staff to be on site to receive the devices. Furthermore, a number of the existing Coastguard sites used for storage of such pyrotechnics may become unsuitable for such activities, being unable to comply with stringent HSE (Health and Safety Executive) requirements for the storage of such explosives in the future. It is for these reasons that the MCA is reviewing its own public-facing pyrotechnic disposal service and considering what system or service might replace the MCA service (if the MCA seeks to withdraw it), in order to ensure that pleasure vessel owners can fully meet their legal obligations for disposing of expired, redundant or damaged pyrotechnics in the future.

Summary of Responses

The Department for Transport formally invited 126 businesses including organisations from the pleasure vessel sector and other interested parties to respond to the consultation, of which only 13 (10.3%) did so. Through social media and other outlets, the Department received a further 104 separate responses (nearly 90% of the overall response), mostly from individual pleasure vessel owners.

The Government would like to take this opportunity to thank all those who took part in the consultation process and for the suggestions, views and ideas that were put forward for further consideration.

The overall responses provided views on each of the Government options and these have been separated out in the next section to capture not only the positive or negative views of each option, but to also highlight the key themes that emerged from the overall assessment that had influenced those views.

On a final point, this response by Government does not aim to reply to every single respondent, but has noted the views expressed in the round as very much having a set of common themes associated with each option, individually as well as collectively. Therefore, those responses that are cited in this document reflect the key themes and

issues that the Government has identified as needing to be addressed and which underline the concerns of the sector in taking this work forward.

Summary of requests for further information, data or analysis

Given the limited amount of data and evidence available to either the Department or the MCA regarding current usage and disposal of marine pyrotechnics, or the access to other industry solutions for the disposal of them, conservative estimates and assumptions were made throughout the consultation and these were used to provide a framework around enforcement, costs to business (or individuals) as well as the benefits for each proposed policy option. The consultation invited further evidence and/or data to underpin views and to help better inform, and so shape, the outcome of the consultation itself. However, the consultation did not provide enough empirical or historic data or evidence to enable this and, as there were no objections or challenges to the basic assumptions that the Department had made, it was, therefore, impossible to refine or introduce more detailed analysis.

Given the lack of any additional evidence regarding the stated assumptions it is not unreasonable to suggest that those assumptions were broadly correct.

It is, however, worth noting that there were several anecdotal accounts of pyrotechnics being stored at private homes or being disposed of at sea. Furthermore, a handful of businesses indicated that they offered a disposal service to boat owners, although they did not provide numbers of customers or any indication of costs. They also acknowledged that such local schemes may be limited in their coverage and were not well-advertised to the wider boat owning community.

Responses to the options

Option 1 – Do Nothing

Under this option the MCA would allow its current contract with its authorised ordnance disposal contractor to end and would not seek to renew it. In such a situation, the MCA would no longer be able to offer a public-facing disposal service, since they would no longer have the means or facilities to either store such pyrotechnics or to have them properly and safely disposed of and destroyed.

Consultee Responses to Option 1:

There was a total of 83 responses to this option, of which 1 was in support, and 2 were neutral and the remaining 80 (96%), were against this option. Whilst many agreed that the current scheme was not fit for purpose, to remove it completely would only increase the number of pyrotechnics being illegally disposed of at sea, around the UK coast or through household waste or landfill sites, which in turn would add pressure on the Coastguard and

other authorities to collect them. It was felt that the current MCA scheme could be built on, rather than removing it as a route for the disposal of pyrotechnics.

One respondent believed that a weak point in the Department's overall case (not just Option 1) was that it "...does not explain the detailed facts and science behind the statement of risks; for example, how often do old pyrotechnics explode or injure people? How do marine pyrotechnic chemical pollutants compare with other chemicals that households dispose of. Instead it largely refers to existing legislation..."

Government response to Consultees on Option 1:

The Government welcomes the overall view that "doing nothing" is not a satisfactory option, since limitations in the current system may very quickly be exacerbated by removing a route for boat owners to dispose of their pyrotechnics and which, in turn, is likely to lead to an increase in redundant or decommissioned pyrotechnics being disposed of unsafely and illegally, particularly so if no alternative options are sign-posted for boat owners. In addition, a likely – but unintended – consequence would be to divert important Coastguard assets and resources from their primary task of search and rescue to removing abandoned pyrotechnics from UK waters and the coast.

With regard to the risks posed by marine pyrotechnics, it is important to note from the outset that for the purposes of the law, marine pyrotechnics are classified as explosives because to activate them requires triggering a small explosive charge within the flare to ignite the chemical compounds to create the smoke, and/or launch the projectile. This means that whilst they are safe when properly stored and used correctly on a boat, they can nonetheless be triggered if disposed of unsafely or used by those unfamiliar with such pyrotechnics and who may, for example, find them washed up on a beach. The hazard that they pose can be either through fire (from handheld flares) or fire plus the ignition of a projectile (in cases of rocket or parachute pyrotechnics). Fortunately, although incidents involving marine pyrotechnics appear to be few and far between, the risks remain, and would be heightened by a conscious disregard to dispose of them safely, rather than as a result of accidental loss.

Most, if not all, commercially available marine pyrotechnics currently use potassium perchlorate which is an oxidizer that helps the other main chemical ingredient to burn rapidly and create the smoke. However, potassium perchlorate also contains chlorine which makes it environmentally unfriendly and introduces risks to both the marine environment and public health.

For these reasons redundant marine pyrotechnics should not simply be discarded in household waste, taken to recycling centres, dumped at sea or disposed of around the coast. Even though they may be redundant to the original owner they are still hazardous waste and carry with them all the associated risks. Therefore, they can only be regarded as a waste product when fully decommissioned, destroyed and their components rendered unusable. It is for this reason that waste management companies may express a reluctance to receive such items, unless they already have in place processes and procedures for safe handling, storage and disposal.

Whilst there is anecdotal evidence of abandoned pyrotechnics accidentally being ignited at recycling centres or during collections of household waste, and causing considerable damage, industry did not provide further evidence to support this during the consultation to elaborate or to build a robust picture. But being that as it may, there remains a risk to both public health and the wider marine environment because of the combination of explosive, and the chemical makeup used in the construction of marine pyrotechnics that abandoned pyrotechnics would present.

Sub-conclusions 1:

- Option 1 was rejected by the majority of respondents because it was felt that not maintaining the voluntary public-facing service currently provided by the MCA would create more problems than it would solve, for both pleasure vessel owners and the Coastguard, as well as increasing risks to public safety and the potentially negative effects on the marine and coastal environment;
- The sector agrees that a reliable route for safe disposal is needed, so doing nothing and allowing the current arrangements to fall away will not help resolve the underlying issues.

Option 2 – Business as Usual

This option would see MCA renewing its current contract with a disposal business and all of the current 18 Coastguard sites (including the one at the RNLI in Poole, Dorset) would continue to provide a public-facing storage and disposal service free of charge to pleasure vessel owners.

Consultee Responses to Option 2

There were a total of 94 responses, of which 38 (40%) supported this option, 27 (29%) were against and 29 (31%) had a neutral view.

The responses to this option provided mixed and sometimes conflicting views that respondents had, and this highlighted the main concerns that had influenced those views about how the current system might be improved. There are those who would like to see the MCA continuing to offer such a public-facing service, but to make it more widely available across the UK by including other HM Coastguard sites as well as configuring those sites to facilitate the receipt of redundant marine pyrotechnics. The view is that this would make it easier to use, geographically, as well as more convenient for those wishing to dispose of their redundant pyrotechnics. This, in turn, would mitigate the temptation of abandoning redundant pyrotechnics.

Conversely, there were others who were unaware of the service provided by the MCA and so had never used it; but many respondents thought that raising public awareness of the MCA service would help.

Whilst there was broad support for Option 2, respondents identified a number of shortcomings in the current voluntary service provided by MCA. These mainly included frustrations that the current appointment arrangements were not convenient, or easy to access and that the process of phoning the nearest HM Coastguard station was often difficult. Additionally, making an appointment and then arriving to find that the officers were unable to take in the pyrotechnics due to other priorities (usually search and rescue) was a significant drawback and undermined the integrity of the service. Further views included:

- Support for Option 2 to prevent larger costs to the taxpayer arising from abandonment;
- Some respondents thought that by increasing the reach and improving the MCA's delivery of service through, for example, mobile units to broaden the geographical extent of the system and to charge a small fee for such a service, would be a solution;
- Free disposal should continue as it represents good use of taxpayers' money, but that the current sites, whilst very helpful are spread too thinly across the country. This means for many they are somewhat inconvenient and there would be merit in exploring how the number of facilities can be increased in a cost-effective way;
- That in the absence of suitable disposal facilities, an extended producer responsibility requirement on all businesses that supply flares, is the only approach that will work. While the current system is not ideal, with few locations willing and able to take time-expired flares this remains the only viable option for boaters at present. A levy on the purchase of new flares to fund the scheme could potentially be viable, but this would increase the financial burden on boaters who would then be required to pay more to purchase and carry devices that are not a suitable part of a modern distress system;
- Conversely, other respondents argued that an industry-led, self-regulated scheme was the way forward, noting that the current MCA arrangements were only initially set up as a last resort, until self-regulation within the industry.

There were also suggestions of having appropriately placed "drop boxes" where boat owners could deposit their redundant marine pyrotechnics and where the MCA (through mobile units) would collect such pyrotechnics. Others felt that either the police or local fire services were ideally suited to receive redundant flares.

There were suggestions that a small charge could be made and incorporated into the purchase of new marine pyrotechnics, which would help finance the eventual disposal.

Others, however, were against there being any kind of charge or fee for such a service, stating that either (a) it was the Government's responsibility because of mandating the carrying of marine pyrotechnics or, (b) to do so would actively discourage pleasure vessel owners from carrying marine pyrotechnic distress signals.

One respondent stated that "...the very idea of people being responsible for disposing of their waste is nothing more than a political ideology..." and that it was the Government's responsibility to provide (and pay for) solutions for the disposal of time-expired, redundant or damaged marine pyrotechnics, particularly those that are required to be carried onboard vessels by law; another respondent thought that "...Governments exist to provide services to their citizens - that is their only reason for being there...". These statements were used

to explain that, if pleasure vessel owners had to pay for the disposal of their redundant marine pyrotechnics, then this would lead to people choosing not to carry pyrotechnics onboard their boats which, in turn, would increase risks to life at sea and add to resource burdens on the Coastguard.

Conversely, other respondents thought it was unreasonable to expect the general taxpayer to pay for such a Government service and that it was hard to think of any other pleasure pursuit where Government paid for the disposal of the sectors waste. There was also support for the “polluter-pays” principle, suggesting that those who require marine pyrotechnic devices to support the safe undertaking of either leisure or commercial activities should be expected to factor in the whole life costs at the outset.

The second issue related to the more general view held across the sector that traditional flares were no longer relevant and ought to be replaced by other means, particularly as there were a wide range of alternative electronic visual distress signals (EVDS) already available on the market. Many respondents wanted the MCA to pursue this and to change the current legislation.

Government response to Consultees on Option 2

The Government response here has been split into four main elements in order to not only address the specific issues raised by both the wider sector as well as individual pleasure vessel owners, but also because they are issues which are in many ways linked and run through all the proposed options in the consultation document. These elements cover:

- the challenges of attempting to expand the reach and effectiveness of the current service provided by the MCA;
- an assessment of the likely costs to pleasure vessel owners in the event of a new or different scheme being developed for the safe disposal of redundant marine pyrotechnics voluntary.
- the legal requirements and best practice recommendations for carrying distress signals on board pleasure vessels; and
- the ongoing debate around the use of EVDS as a suitable alternative to traditional flares.

Expanding the current voluntary public-facing service offered by the MCA

The non-statutory marine flare disposal route that the MCA and HM Coastguard have facilitated since 2010 (following changes to legislation governing the handling, storing and disposal of explosives) is limited and was only created as a means of last resort, in the absence of industry providing its own solutions. Its main aim was to ensure that redundant marine flares did not pose a danger to the general public or to the coastal and marine environment around the UK.

The MCA continues to voluntarily accept small quantities for disposal from the public, and marine flares from the pleasure vessel sector may be delivered, through an appointment

system, to one of the 18 designated MCA locations around the UK (including the one at the RNLI in Poole).

At the time the MCA analysed the data of where most of the redundant marine pyrotechnics were coming in and the sites that were eventually chosen represented the best geographical spread across the UK.

One of the biggest constraints facing the MCA and HM Coastguard is that in order to provide such a voluntary collection and storage service the permission of the landowner is needed, which in very many of these cases is not the Government. Whilst the MCA and HM Coastguard has an estate of over 400 sites over 95% of it is used for a combination of training and response purposes. The sites themselves are made up of industrial units designed only to house the vehicles and equipment necessary to undertake search and rescue activities. As such, and due to the locations of many of the sites, this means that they are unsuitable to receive and store redundant marine pyrotechnics since they cannot meet the stringent HSE explosives legislation requirements (such as complying with separation distances and managing the likely increase in the quantities and types of pyrotechnics that would need to be stored). Those 18 sites that were designated as meeting the requirements are the ones that are currently used and there is little scope to expand the number.

Furthermore, the HM Coastguard Search and Rescue service does not naturally lend itself to having mobile units dedicated to the collection of redundant flares or for managing “drop boxes”. This would be very resource-intensive since considerably more personnel and assets would be required. Vehicles need to be kitted out with dedicated equipment to comply with regulations governing the transport of dangerous goods by road, and the largely volunteer personnel that support HM Coastguard Search and Rescue would need training to retain a high level of competency for handling redundant marine pyrotechnics, many of which may be in a poor condition and so have an increased hazard risk.

It is on this basis that the Government considers that there is no real benefit in looking at expanding or relocating the existing voluntary service to larger or more suitable sites. Such facilities do not currently exist and it would not be economically and strategically viable in terms of improving the existing pyrotechnic disposal service. Nor would they offer a more comprehensive service and it is felt that this would have the effect of detracting from HM Coastguard’s core business of search and rescue.

It was suggested that, “...In the long term, large scale disposal of pyrotechnics is probably going to be less of an issue but still something which needs to be planned for. Safe collection points need to be located around the coast, with their positions easily obtainable online. Discussions need to be initiated with the manufacturers so that they are potentially able to become involved in the safe disposal of the hazardous materials...”

“Drop boxes” were deployed some years ago and were usually managed by waste management companies (not the MCA) and provided for pyrotechnics to be deposited for collection. However, changes in the law governing the storage, handling and safe disposal of pyrotechnics, particularly those that may be damaged, out of date or contain different and higher mixes of explosive, mean that a single point of deposit, such as a drop box, immediately raises the hazard and the risk to not only those tasked with managing drop

boxes themselves, but to the general public as well, and introducing potential fire risks to any nearby property.

In respect of either the police or fire services offering local facilities to boat owners, it is not practical since in very many cases such stations do not have the facilities to store quantities of redundant marine pyrotechnics and, like MCA, may need to overhaul existing sites to accommodate them. Officers would need to be competent and trained to comply with existing legal requirements for the handling, storing, packing and transporting of such devices and this would add a strain onto existing resources; likewise landfill or recycling centres do not accept redundant flares since they are classified as hazardous waste when decommissioned, as opposed to waste products. Under such circumstances, recycling centres do not usually have the facilities for storing, handling or disposing of such products, nor do their on-site staff have the appropriate training.

Furthermore, it would not prevent other types of devices deliberately being placed in drop boxes or disposed of elsewhere, particularly those that do not come from the pleasure vessel sector. It might, for example, provide a convenient way for the disposal of other types of explosives or other hazardous waste of unknown condition or provenance. And given that the drop boxes would need to be situated in locations close to, or in, public areas, it would increase risks to public safety. Finally, the cost of operating, maintaining and managing such a nationwide service would most likely be prohibitive and beyond the resources of the MCA and certainly well beyond their core business. These reasons explain why waste management companies withdrew this option some years ago.

Some respondents suggested that an Extended Producer Responsibility (EPR) should be put in place on all businesses that supply flares.

EPR is certainly in line with the “polluter pays” principle which requires that those who produce pollution should bear the cost of managing it to prevent damage to human health and the environment. The producer (or brand owner) would be made responsible for the full net cost of recycling and disposal.

The Department for the Environment, Fisheries and Rural Affairs (DEFRA) are currently engaged in the passage of the Environment Bill through Parliament which (a) provides a legal framework for environmental governance and, (b) makes provision for specific improvement of the environment, including measures on waste and resource efficiency. This, amongst other things, allows for obligations to be placed on producers in relation to the reuse, redistribution, recovery and recycling of their products. Section 50 and Schedule 5 of the Bill also makes provision for producers to pay the full net cost of managing their products at end of life to incentivise them to design their products with sustainability in mind.

Within the context of the Environment Bill, the definition of “disposal” (Schedule 5) is broad and includes re-use and recycling as well as disposal, for example, into a landfill site or by incineration. However, it should be noted that a decommissioned marine pyrotechnic is not considered as waste as other products might be, as it still contains active chemicals and explosives and, therefore, would likely comprise hazardous waste. Only when these elements are rendered inert or removed, can a pyrotechnic be classed as “waste”. Under current arrangements, redundant marine flares from the pleasure vessel sector are incinerated. Nonetheless, this may add to the complexity of extended producer obligations.

On a final point concerning obligations on producers or distributors of marine pyrotechnics, boat owners are free to purchase distress flares outside the UK from producers over whom domestic regulations do not apply, so there may be challenges in seeking the correct disposal of such devices through any existing or future processes.

That does not mean that producers and UK-based distributors of marine pyrotechnics cannot be made (or encouraged) to engage more fully with the end-of-life disposal of their products, and Government is willing and ready to discuss with them further to establish the viability of recycling any elements of a marine pyrotechnic.

However, the Government accepts, as it has already indicated in the consultation, that the current voluntary system provided by the HM Coastguard does not work effectively, that it does not provide easily accessible or convenient arrangements for pleasure vessel owners, that its reliability is predicated on largely volunteers or staff being available from the core business of search and rescue and, finally, that the annual cost for providing the voluntary service does not demonstrate value for money to the general taxpayer.

By retaining this option, whether it is in its current configuration, or something new, with more sites being made available to pleasure vessel owners, would move the model away from what was always intended to be a voluntary, last resort option for those wishing to dispose of their redundant marine pyrotechnics (in the absence of industry intervention). Even if this was viable, it would need to become a more commercially orientated arrangement, increasing a need for more resource, more dedicated and properly provisioned facilities (in order to meet legal obligations around handling, storage and transport). In the Government's view it is unreasonable to say that such a robust service, with the requisite staffing levels and equipment, and the overall cost of running it, would offer value for money to the taxpayer.

The cost to pleasure vessel owners of disposing of their redundant marine pyrotechnics

The yachting sector noted that "...We believe that the Government should continue to pay for this service as long as the MCA compels and encourages boaters to carry flares for which there are no suitable disposal arrangements. While this may not be good use of taxpayers' money, it is inevitable if the MCA do not change their carriage requirements..."

This view was shared by other professional bodies that stated "...the current service does not offer value for money. The current principle is correct but not the operation..." and argued that as the disposal of redundant pyrotechnics was largely a safety issue, it was a Government responsibility.

This view was shared by some individual respondents, too, and the reaction to possibly having to pay a charge for the disposal of their redundant marine pyrotechnics was that some boat owners may choose not to carry such means of raising the alarm on board their vessels. There was a view that the consultation document was light on evidence or data, despite the fact that the consultation had highlighted the lack of available analysis to help shape its initial assumptions. None of the respondents challenged what data the Government was able to provide, and nor did any respondent add anything new that could better inform or refine the initial assumptions.

In response to the underlying objections of pleasure vessel owners having to pay for the disposal of their redundant marine pyrotechnics, the Government does not agree with the concerns raised by the sector. It does not agree that the general taxpayer should continue to pay for disposal of this type of waste from what is an essentially a pleasure activity and one of choice and where all other waste from the sector must be disposed of and paid for by individuals (such as batteries, oil, fuel, etc); nor does the Government share the view that the cost of disposal is either unfair or unreasonable to pleasure vessel owners.

The Government notes that the consultation invited the sector to look for such evidence that demonstrated pleasure vessel owners would face unreasonable financial costs if required to pay for the disposal of their redundant pyrotechnics. This was irrespective of whether or not pleasure vessel owners were under a legal obligation to carry pyrotechnics on board their vessels.

Whilst there were numerous objections from the sector about having to pay a charge for the disposal of redundant marine pyrotechnics, no such evidence was forthcoming from any of the organisations, clubs, charities or other associations representing pleasure vessels owners; nor did individual boat owners submit any additional data with regards to current costs they are paying or being quoted for disposal, noting that the current voluntary service offered by HM Coastguard is entirely free to boat owners. Furthermore, although it was mentioned by respondents, the cost of driving by car to and from one of the designated Coastguard sites to dispose of redundant pyrotechnics (sometime a round trip of between 100-200 miles) did not factor in as a cost, petrol or other aspects of such a journey, the outcome of which could be unsuccessful if the officers at the site were otherwise engaged on search and rescue activities.

Section 3.12 of the consultation document provided estimates of the cost to purchase new marine pyrotechnics. For example, the cost for an “offshore” pack of pyrotechnics could cost in the region of £150 - £200. Since manufacturers and distributors state that their products are valid for three years, this works out at an annual cost of around £50 - £70 for a pack of 10 various marine pyrotechnics.

Individually, a red handheld flare typically costs in the region of £10. Therefore, the cost on an annual basis to equip a pleasure vessel with a suitable level of distress signalling pyrotechnics may range between £10 - £20, with some modest variation depending on the type and manufacturer of the product and whether it was purchased within the UK or from abroad. None of these assumptions were challenged and no additional evidence was provided.

In discussion with those businesses that already offer a disposal service, the Government has been informed that the average cost (directly to a boat owner) for the disposal of a single marine pyrotechnic of the type carried on board pleasure vessels is in a range of range of £1.50 - £3 per flare, but this depends on the type of flare, the quantities that are being collected and destroyed and the general condition of the pyrotechnic. This assumes also that the boatowner does not need to travel any great distance to hand in their redundant pyrotechnics (for example, at a chandlers within a marina) so any costs that may have been linked to travelling ought to be greatly reduced.

In combining the above annual costs between (a) the cost of purchasing marine pyrotechnics, and adding in (b) the annual cost for eventual disposal, then a pleasure

vessel owner could pay in the region of £23.00 - £26.00 (about £2.00 per month) if they carry 6 flares on a vessel over 13.7 metres; and for those below that length, 3 distress flares, the cost is, annually between £11.50 - £13.00 (about £1.00 per month). These costs cover original purchase and disposal and whilst the Government acknowledges that there may be some variations, these assumptions are based on what information the sector has provided and reflect what an individual might pay.

In comparison, HM Coastguard received 12,000 marine pyrotechnics last year, although the annual cost of running the whole voluntary scheme through the 18 sites is between £230k - £250k (these costs include, but are not limited to, the ongoing upkeep and maintenance of premises to retain their legal suitability for storing redundant marine pyrotechnics, for training and education of the largely volunteer Coastguard Rescue Officers, public engagement and the contract with a disposal company). This means that it is costing the general taxpayer about £20 annually for the disposal of every single pyrotechnic received, which does not offer value for money. Likewise, this kind of cost would begin to be less attractive to pleasure vessel owners if the MCA were to start charging a disposal fee directly.

Furthermore, and to put this into context the perceived financial burden on pleasure vessel owners, as an example, the following costs can be associated with owning a vessel of about 12 metres in length, with a hull valuation of about £200,000. This is based on information that individual boat owners provided on request. As a general principle the costs of yacht ownership are determined by length, hull value, cruising area and competency/qualifications of the owner/skipper. Cost include (but are not limited to): mooring fees (usually the most expensive element, estimated at between £7,000 – £10,000, but depending on where and when the mooring takes place); fuel (about £100+ if a sail yacht, more if a power boat); insurance (£650 per annum), boat maintenance (such as seasonal “lift out” at a cost of £500); servicing (£1,000); maintenance and/or replacement of emergency equipment, such as lifejackets (£30), fire extinguishers, first aid equipment, as well as servicing of equipment, including VHF radio and Emergency Positioning-Indicator Beason (EPIRB).

Whilst the Government notes that not all pleasure vessel owners would pay precisely these charges for owning a boat, and that much may depend on circumstances governing the carriage of marine pyrotechnics, the Government is also aware that some owners may take a more relaxed view towards maintaining or carrying some safety and emergency equipment or performing basic maintenance and upkeep of their vessels. Nonetheless, the Government believes that the information provided offers a fair assessment of the cost of owning and maintaining a pleasure vessel. It is for these reasons, and on the economic basis, that the Government takes the view that any such costs to pleasure vessel owners to dispose of their redundant marine pyrotechnics would be neither unreasonable nor a burden.

As previously highlighted, some professional bodies have argued that, “..a levy on the purchase of new flares to fund the scheme could potentially be viable, but this would increase the financial burden on boaters who would then be required to pay more to purchase and carry devices that are not a suitable part of a modern distress system...”

Given the limited evidence to support this claim, and based on the analysis from the previous sections, the implication that by introducing a financial charge on pleasure vessel owners would be a burden does not appear to stand up to scrutiny.

With regard to how the cost associated with disposing of marine flares could be passed onto the pleasure vessel owner, it would be for the market to decide and for individual businesses to identify any such commercial opportunities and their understanding to comply with the appropriate aspects of existing legislation (as set out in the consultation document). Cost would not be directed by the Government through the setting of minimum charges or any new legislation. Any charge could be, therefore, linked to the purchase of new marine pyrotechnics, such as a surcharge; separate costs for disposal; some form of sale of return; voluntary donations or even a free service offered by businesses with the support of the marinas as a means of making that place more attractive for boat owners to use.

Nonetheless, the Government also wants to reassure the sector that it will monitor the situation if charges are placed on boat owners for the disposal of their redundant marine pyrotechnics and would rely on the sector to keep it fully appraised.

Finally, the Government disagrees with the responses which suggest that the problems are largely caused by Government continuing to recommend and mandate the use of marine pyrotechnics and a reluctance to move to a more modern form of raising the alarm. As the next two sections will show, the legal requirements form part of international maritime law to which the UK is a party, and the use of alternative means of raising the alarm (such as EVDS) are yet to be recognised and approved as meeting an international standard so that they can be incorporated into international law.

The legal requirements and best practice recommendations for carrying marine pyrotechnics onboard pleasure vessels

One yachting club noted, "...we believe that pyrotechnics are inherently dangerous, unreliable and as the boating community knows only too well are difficult and expensive to dispose of properly. In 1972 when the COLREGs (Convention on the International Regulations for Preventing Collisions at Sea) were written, pyrotechnics were the only practical distress alerting option available for most recreational boaters. Now modern technology provides safer, affordable and significantly more reliable alternatives. It is disappointing that this consultation does not consider removing mandatory carriage requirements as part of the solution as, in our opinion, that is the only viable way ahead..."

In reply, the Government made it clear at the beginning of the consultation document (section 1.7) that its purpose was to consider future arrangements for the safe and proper disposal of marine pyrotechnics from the pleasure vessel sector, not to review existing legal requirements that are currently in place in the UK based on compliance with international maritime law.

The Government takes this opportunity to remind owners of pleasure vessels that they must satisfy themselves that they are complying with all of the relevant legislation in relation to the carriage of distress flares.

If pleasure vessel owners do not comply with their legal obligations, then they will have committed an offence and may be subject to penalties. It is also worth noting that if a

boatowner chooses not to carry the required life-saving equipment then, in the event of an incident, they may well be exposing themselves and their passengers to unnecessary safety risks. There is also a possibility that in such circumstances their insurance may be affected in respect of any claims that may be made at a later date. Individual boat owners should check their policies with their insurers.

Given the small estimated cost for disposing of redundant pyrotechnics then it appears to be a disproportionate reaction to choose not to carry them, either in compliance with the law, or as a best practice recommendation and to then dispose of them safely and responsibly.

Use of EVDS as alternatives

The overall view of many is that pyrotechnic flares are "...not a suitable part of a modern distress system..." and that their "...long-standing view is that the compulsory carriage of flares by recreational boaters is an outdated and ineffective approach to maritime safety..."

In July 1977 the COLREGs came into force in the UK. Annex IV of that Convention relates to the recognised signals which should be used if a vessel is in distress and needs immediate assistance. The International Convention for the Safety of Life at Sea, 1974 (SOLAS) describes the standards that such equipment should meet before being placed on the market (including type approval). The Convention came into force in the UK in May 1980.

Whilst it may remain possible for the UK to introduce additional elements – “gold-plating” – into domestic law, which would relate to shipping, ships or persons engaged in activities on ships, it would only have effect within UK waters and on UK-flagged vessels.

However, if the UK were to introduce provisions into domestic law allowing for certain types of EVDS to be used onboard UK ships – and pleasure vessels are included in the definition – then they may not, when used, be recognised by others as a distress signal and result in no efforts being made by others to offer assistance. This would, therefore, create a serious risk to boat owners, their vessels and their passengers if they got into difficulties at sea.

The MCA recognise that there are a range of non-SOLAS type signalling devices available on the market but, as an enforcement authority, it is not in the position to assess the standard or technical compliance of those products to underpin their suitability for use in the pleasure vessel sector. It means that without establishing an agreed type approval process and technical specification – as determined by the Technical Committee of the International Maritime Organisation (IMO) – such products would not be recognised as being suitable for use as distress signalling devices. There could also be issues around market distortion and fair competition by introducing products that do not comply with internationally agreed standards.

This is not to say that work cannot continue in ensuring that EVDS put on the market can offer a longer-term solution of raising the alarm, which may well be safer and more reliable than the traditional pyrotechnics. But work still needs to be done to satisfy the international

community that such devices are a safe and reliable alternative, can be relied upon and present no risks to others (such as pilots of planes and helicopters).

In March 2020, the MCA published Marine Information Note (MIN 542 (M+ F) Amendment 1 (at Annex C) Life-Saving Appliances – Recognised Distress Signals and Advertised Alternatives to Pyrotechnic Flares.

This document makes it clear that there would need to be a change to Annex IV of the COLREGs, or to the SOLAS technical performance standards and to the applicable international and UK national carriage requirements in order to establish the full recognition of these devices as distress signals. Changes to these Conventions also implies that, as and when EVDS are established as technically and suitable alternatives as a means of raising the alarm at sea, the continued requirement of carrying pyrotechnic flares may, in turn, become redundant.

To that end, the US Coast Guard has been working with the International Standards Organisation (ISO) and the Radio Technical Commission for Maritime Services (RTCM), both recognised international standards organisations to research the effectiveness of EVDS as being fit for purpose. The MCA has been monitoring progress and continues to support this initiative at an international level.

Sub-conclusions 2:

Although more supported this option than opposed it, retention of Option 2 does not offer a satisfactory solution for disposing of redundant pyrotechnics from the pleasure vessel sector in the Government's view. This is because:

- Whilst there was support for retaining the existing voluntary service provided by the MCA, it would require significant and costly modification and restructuring to make it a service dedicated (in whatever configuration) fit for purpose across the UK, and distinct from the core business of the Coastguard;
- Mobile units collecting redundant marine pyrotechnics or the use of drop boxes would be costly in terms of resourcing and managing and would also require considerable efforts to ensure that every part of the chain complied with both HSE explosives regulations, as well as those governing the transport of dangerous goods by road;
- The voluntary service does not currently offer the taxpayer value for money when compared with cheaper costs for disposal offered by other business, and this is unlikely to change if it is expanded in the ways suggested;
- In the absence of any compelling evidence from the sector, the cost of disposing of a redundant pyrotechnic is negligible in relation to either the current cost to the taxpayer or, more generally, the cost of running and maintaining a pleasure vessel;
- Such modest costs, if applied in one form or another, should not act as a justification for pleasure vessel owners to refuse to carry onboard their vessels the

appropriate number of distress flares, either mandated or on a voluntary basis. The law and the best practice recommendations, as advocated by both the MCA are very clear on this point; and

- The use of EVDS as a means of raising the alarm, as an alternative to pyrotechnic flares, continues to be studied and discussed at international level but would in any case require changes to international maritime conventions and protocols to facilitate such a move to a more modern system and any gradual phasing out of traditional pyrotechnics.

Option 3 – Full Regulatory Intervention

This policy option would seek to ensure that the life-cycle of all marine flares used by owners of pleasure vessels is not only fully regulated, but enforced, from whole life cycle, and that the key actors involved are brought into scope of those rules. This would include, but not necessarily be limited to, manufacturers, distributors, commercial sales, handling, storage and eventual disposal of flares. It also means that owners of pleasure vessels would be brought into scope of such regulations.

Consultee response to Option 3

83 responded to this option, of which 9 (11%) supported it; 4 (5%) were neutral and 70 (84%) were against it.

In summary the overall views were:

- That it is an industry and Government problem, the leisure user should not be penalised for buying safety equipment. It would be extremely costly with no actual benefit. Redundant flares still need to be disposed safely;
- That information on the existing regulations should be made more obvious to purchasers of flares, many of whom do not know what their responsibilities are in terms of disposal;
- That there is a need for a full framework to address the current challenges with disposal of redundant flares., but that such a framework needs to be solely drawn up and implemented by the Government. A framework is essential to any form of product or set of products that have such an impact on safety and the environment. This will, by default, need some form of legislation and therefore would need Government involvement to create and implement such a change. Without 'proper' legislation there would be no incentive for the industry to drive change. The framework would be the logical place to start for any reform and make it a requirement for a party or parties to take ownership of the problem. This will only be started by a change in law to 'force' groups to take responsibility;
- Conversely, others argued that a full legislative framework would not work. Admittedly, there were benefits to this, such as traceability of flares from their initial sale to their disposal but it would be very difficult to enforce, especially if the owner purchased the flares from outside of the UK, where regulations would not be the

same. It would also require changes in law, which would likely take some time to pass. The additional administrative costs and additional resources required would, we feel, be unrealistic in the long term. This could also discourage vessel owners from carrying flares on their vessels at all;

- Furthermore, other organisations agreed that new legislation was unnecessary and would cost the MCA more to implement than the current disposal service. There has already been large movement away from the use of flares by most boat owners as the availability of EVDS and other electronic devices (EPIRBs, AIS, mobile phones etc.) has reduced the need for flares. It did not, therefore, make sense to impose a new regulatory system given the decline in usage of flares.

Most individual pleasure vessel owners did not support Option 3 as it was likely to be “...unnecessarily bureaucratic, overly complicated, inefficient and will be poor value...” Furthermore, the gradual shift away from the traditional type of flare will ultimately make this option unnecessary. Others saw this option as a sledgehammer to crack a nut and felt that any such legal framework of this nature would be impossible to enforce and full of loopholes.

Respondents explained that “...A full regulatory framework would be expensive and difficult to manage for a relatively small gain. We cannot conceive of a viable mechanism whereby flares could be tracked throughout their ownership to ensure that individual devices were disposed of correctly. The only way they will be disposed of correctly is to make the process simple and readily available to boaters all around the country. Additional controls at point of purchase would add further burdens to recreational boaters who are being required by the MCA to carry these devices...”

Government Response to Consultees on Option 3

The overall view from respondents is broadly consistent with the Government’s view that this option is the least attractive, as it would impose both a financial and administrative burden on all parties to ensure compliance, including boat owners, industry, local businesses as well as enforcement authorities, without achieving the goal of providing a reliable and easily accessible route for boat owners to dispose of their redundant pyrotechnics. The issues highlighted by respondents mean that any legislative framework, above and beyond that which is already in place, would also be difficult to enforce, given that most (if not all) pyrotechnics are not manufactured in the UK, and that many boat owners may have purchased their pyrotechnics abroad, meaning that they would not be detected on any domestic system. Furthermore, pyrotechnics may be genuinely lost at sea (rather than deliberately dumped) or discharged in an emergency, so it may not always be possible to effectively enforce the law in such circumstances.

The Government agrees that the current voluntary system offered by the MCA could benefit from having a much higher public profile and that any system would need much greater promotion to gain effective public-facing awareness, so whilst Option 3 may be fraught with difficulties, it has highlighted potential solutions from the many helpful views and suggestions of respondents.

The Government also believes that there is already adequate legislation in place governing the sale, markings, handling, storage, transportation and disposal of marine pyrotechnics and that there are sufficient provisions in place to identify the legal obligations on individual boat owners when they come to disposing of redundant pyrotechnics; but as indicated in the previous paragraph, these obligations and responsibilities need to be fully highlighted in order to bring greater awareness to the pleasure vessel sector more generally and to individual boat owners in particular.

Sub-conclusions 3:

Option 3 was rejected by those responding because:

- it was felt that taking it forward would only add unnecessary administrative and financial burdens on the whole sector;
- such a proposed cradle-to-grave legislative framework would require significant resources from Government to ensure effective enforcement and compliance, take time to introduce and probably not deliver an effective solution
- as boat owners moved away from traditional flares to permitted alternatives, the need for such a legislative framework would diminish and become unnecessary.

Option 4 – An industry-led, self-regulated set of schemes

This option assumes that the MCA will withdraw the public-facing aspect of its current voluntary service and, in its place, will work with the pleasure vessel sector to develop and deliver an industry-led, self-regulated set of local schemes designed to meet local needs and encourage safe and responsible disposal of redundant marine pyrotechnics. By “self-regulated” this means using the existing legislative framework already in place without seeking new laws or powers to enforce controls. It means that boat owners will continue to be required to dispose of their redundant marine pyrotechnics safely, and that local solutions, supported by industry and Government will facilitate that.

Consultee response to Option 4

There were a total of 97 responses to this Option, of which 54 (56%) were in support, 12 (12%) were neutral and 31 (32%) were against. Importantly, there was a greater number of responses in favour of this option than for any other option.

The larger proportion of respondents support this policy option and believe that, with the right approach and engagement from the industry and vessel owners, this option would be the most effective; others believed that, whilst this option might not work, it could be possible if the MCA develops an effective plan to enable a transition from the current disposal service to an industry-delivered service, adding that “...it is more likely that chandlers will stop selling flares if they have to provide a service that would require them to dispose of any flares, including ones not purchased from them...” Other respondents

were also concerned that any such industry-led option must be given time to get established before MCA withdrew their existing voluntary service.

One professional sector organisation said, "...We would support an industry led approach if it could be shown to be viable. Industry has not put in place a suitable disposal mechanism to date, and the opportunity has always been there. If an industry-led system were to be implemented it would need to have some regulatory force behind it to address online purchases and to properly fund the requirements..."

The sector supported this option and stated that: "...Creating a national industry scheme that will provide the necessary facilities for users to safely dispose of out of date flares at a reasonable cost. Encouraging users to dispose of flares at a reasonable cost when many are unaware of the risks, or the penalties for unsafe disposal. The solution would have to include enabling free disposal at a suitable number of disposal stations, paid for in a different way from the existing charged disposal scheme..."

A leading supplier of emergency and rescue equipment supported Option 4, noting that "...Pyrotechnic signalling devices are the most cost effective and widely recognised in their specific function of visual distress alerting or visual location marking. All safety equipment is complementary and search and rescue organisations around the world continue to recommend the carriage of pyrotechnic distress signals for their unique function in emergency situations and rescue operations... Equally it is important that recreational boaters are encouraged to dispose of their flares in a safe and responsible way and without harm to the natural environment..."

Waste Management businesses broadly supported Option 4 but had some reservations, "...believing this proposal is akin to the current system used for tyres. However, these types of 'schemes' are not perfect, so, there will need to be careful management and monitoring to ensure that the boat yards that take in flares/TEPs and charge for the service, don't then fly-tip them in the environment or worst still put them in their general waste. If this option is managed correctly it could well save boat owners driving miles to an MCA facility that accepts them, limiting the possibility of boat owners not bothering to travel and just fly-tipping the flares or putting them in the general waste. It was suggested there should be some information produced around the pricing mechanism set by the DfT, to ensure everyone understands what a 'reasonable' charge looks like..."

The key reasons given by respondents for not supporting Option 4 included (a) concerns around costs of disposal, not only to pleasure vessel owners, but those businesses that could be deterred from offering such a service (due to cost for equipment, storage and training); (b) concerns about how such an option would work in practice to ensure that when redundant pyrotechnics were handed in for disposal they would not be dumped somewhere else and; (c) the overarching view that the whole policy of carrying flares needs review.

Government Response to Consultees on Option 4

The Government welcomes the views of consultees and the overall support for Option 4. However, the Government acknowledges the concerns and issues that have been raised as risks to making this option work in practice.

The Government has already commented on the issues of both the perceived financial impact on pleasure vessel owners for disposing of their own pyrotechnics as well as the technical matter of changing the law to allow for alternative signalling devices such as EVDS.

The Government's intention, if Option 4 is further developed, is that the cost of disposal of redundant marine pyrotechnics from the pleasure vessel sector, and how those costs are recouped, remains a commercial matter for the sector. Government does not intend to have any role to play in these future arrangements, but will do all it can to support the sector and ensure that whatever disposal service (or services) are made available comply with existing legislation and offer an effective and reliable route for boat owners to use which is neither prohibitive (in terms of cost) or difficult to access.

Concerning the way in which businesses may choose (or not) to offer a disposal service to their customers (i.e. pleasure vessel owners), will, ultimately be a business decision for them and if they identify a viable business opportunity. It is worth noting at this point that there are a number of businesses within the sector that already offer such a service and are successful in doing so. Furthermore, these businesses, and any business that wishes to set up such a service, will be bound by existing legislation, not just about the handling, storing, transportation and disposal of pyrotechnics, but also to ensure that their staff, under employment law, are properly protected and have received appropriate training. Businesses will be subject to local trading standard rules and be bound to comply with the specific safety and environmental rules and regulations set out within the harbour or marina domain.

In most cases, if not all, local businesses will enter into a contractual arrangement with a professional disposal company who will agree to remove the redundant pyrotechnics and offer other services, such as training and equipment, if necessary.

There will, of course, be a cost for these services, but how this is covered remains a business choice for the service provider and Government would not intervene. It may be through a direct charge to the boat-owner, it may be through some other arrangements that, for example, attract loyalty and more customers.

The Government also agrees that for such schemes to be successful (local solutions for local issues) that boat owners will need to be made aware of their existence and the Government would work with the sector to raise that awareness and provide support where necessary.

The Government's ultimate objective is to ensure that pleasure vessel owners have an easily signposted, easy to access and convenient route for them to meet their own legal obligations of being able to dispose of their redundant pyrotechnics safely and responsibly and remove the financial burden from the taxpayer.

Sub-conclusions 4

Respondents to Option 4 believed was the more attractive way forward in resolving the ongoing issue of proper marine pyrotechnic disposal, if –

- such schemes were properly supported, and that it was an easily accessible, trustworthy route well sign-posted;
- the different industry parts of the sector played their part in providing an effective service to meet the diverse business and geographical needs of the pleasure vessel sector;
- costs were reasonable and the system was properly enforced;
- the integrity of any scheme, or schemes, could to be assured across the UK to ensure awareness and uptake;
- Government has an ongoing role to ensure that the proposals meet expectations and delivers a much more enhanced solution.

Overall Conclusions from the Consultation

Specific to each policy option set out in the Consultation Document

- Option 1 was rejected because it did not address the underlying issue of putting in place effective arrangements for the disposal of redundant marine pyrotechnics from the pleasure vessel sector;
- Option 2 was largely supported by those that responded to this option, but for it to succeed there would need to be a major and costly overhaul of the current voluntary service to one that is more geographically widespread and dedicated to pyrotechnic disposal;
- Option 3 was rejected because it was unworkable, unenforceable, introduces an unnecessary new layer of bureaucracy and would in any case eventually be redundant as other, alternative types of signalling devices were internationally recognised; and
- Option 4 was supported by the majority who responded to this option, and, indeed, was the option most supported out of all four, in that it provided, if managed properly, a genuine opportunity for local solutions to local issues, rather than having a single entity across the whole of the UK.

Relating to more general observations expressed:

- It is accepted that whatever arrangements are put in place, there will always be a minority of boat owners who will not take their responsibilities seriously and continue to present risks to public safety and the marine environment by abandoning redundant marine pyrotechnics;

- The cost to boat owners for disposing of their redundant marine pyrotechnics does not present an unreasonable or prohibitive cost to them;
- Those boat owners who are required to carry distress signals in compliance with domestic legislation must continue to do so or risk prosecution and may find that their insurance may not cover them in the event of an incident;
- It remains an option for those not governed by domestic law whether or not to carry distress signals, but Government can only recommend that they do so as a sensible precaution;
- The use of alternative distress signalling, such as EVDS will first need to be technically approved as being safe and fit for purpose, and comply with internationally agreed standards and type approval requirements contained in International Maritime law and reflected in UK domestic legislation.

Next Steps

The sector supported the proposal of an industry-led, self-regulated set of schemes and, to that end, the Government will begin to engage with those within the sector who have made proposals and have offered to develop their own solutions to establish a national network of local schemes for local needs and which will offer an easily accessible and reliable route for boatowners to dispose of their redundant pyrotechnics.

It is envisaged that as the current MCA voluntary public-facing service is withdrawn, the industry-led one will assume prominence, eventually becoming the sole route for future arrangements.

Total list of all organisations, businesses or associations who provided comments (alphabetically). Individual respondents are not included

British Ports Association (BPA)
Chartered Institute of Waste Management (CIWM)
Cowes Harbour Commission
Dorset Marine Training
East Sussex Fire Service
Environmental Services Association (ESA)
FFXAP Ltd
Isle of Scilly Council
Kayak Oban Adventures
Kildale Marine Ltd
National Fire Chiefs Council
Orwell Yacht Club
Pin Mill Cruising
Powerhaul
Premier Marinas

Ramora UK
Shellscape
The British Marine Federation (BMF)
The Cruising Association
The Environment Agency
The Royal Yachting Association (RYA)
Wescom Signal and Rescue UK Ltd