



Department  
of Energy &  
Climate Change

# MANAGEMENT OF THE UK'S PLUTONIUM STOCKS

A consultation response on the  
proposed justification process for the  
reuse of plutonium

May 2013



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# 1. Executive Summary

- 1.1 The Government's preferred option for managing the UK plutonium stockpile, reuse as Mixed Oxide fuel (MOX) was set out in the Government response to the consultation on the long-term management of UK plutonium.
- 1.2 Work is continuing to gather the information needed to determine how to proceed. The Government has also made clear that it is open to alternative proposals for plutonium management if they offered better value for money to the taxpayer.
- 1.3 The consultation document, published on 28<sup>th</sup> May 2012, set out the proposed process for both making applications and justification decisions concerning the end-to-end process for the reuse of plutonium.
- 1.4 Views were sought on whether the proposed process was clear and proportionate, took into account the relevant factors for consideration and whether the guidance for applicants, published alongside this response, should be specific or generic.
- 1.5 There is a strong inter-relationship between reuse of plutonium as MOX and new nuclear reactors; nuclear reactors need to be available to irradiate the fuel as the final part of the process. Final reactor choices have yet to be made and alternative technologies remain under consideration. Therefore it is considered that generic guidance offers the most flexible and proportionate approach to justification.
- 1.6 The Guidance for Applicants, published alongside this document, sets out the application process for justification of reuse of plutonium, the information required for an application to be assessed and the decision-making process.
- 1.7 The guidance advises that it is up to the applicant to determine whether they consider it most appropriate to proceed with technology specific applications or group a number of different technologies in a single application. In all cases, any application would need to include sufficient technical data, relating to the benefits and health detriment associated with the proposed practice, to allow an informed justification decision to be made.

## 2. Introduction

### Why we consulted

- 2.1 The Government's response to its consultation on the long-term management of UK owned separated civil plutonium<sup>1</sup> identified reuse of plutonium as mixed oxide fuel (MOX) as the preferred option for the long-term management of UK owned separated civil plutonium. The UK is currently storing a significant quantity of civil plutonium. The Government considers that due to both domestic and global concerns over the security risks and non-proliferation sensitivities associated with the long-term storage of plutonium that a clear policy for its long-term management is required.
- 2.2 While the Government has set out a preferred policy, there is not yet sufficient information to decide whether to proceed with implementing this policy, including procurement of a new MOX plant. The Government is now undertaking the next phase of work, which will provide the information required to make such a decision. Only when the Government is confident that its preferred option could be implemented safely and securely, that it is affordable, deliverable and offers value for money, will it be in a position to proceed with a new MOX plant.
- 2.3 Government also made clear that they were open to alternative proposals for plutonium management if they offered better value for money to the taxpayer. Whilst work since the publication of our response has focused on reuse as MOX, alternative reuse approaches have also been progressed.
- 2.4 A number of responses to the consultation referred to different options or technology choices for managing the UK stockpile of plutonium. The purpose of the consultation was to seek views on a clear framework for justification of any process that could be used for the reuse of plutonium. It was not intended that applications for regulatory justification should compare themselves with other options for the management of plutonium; rather an independent, high-level assessment of benefits against health detriment should be undertaken.
- 2.5 Before the Government makes any final decision to implement its preferred option it needs to be satisfied that the class or type of practice is found to be justified, in that it must be shown that the benefits associated with the practice outweigh the health detriment. Applicants seeking a justification decision for the

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<sup>1</sup>A consultation response on the long-term management of UK-owned separated civil plutonium, <http://www.decc.gov.uk/assets/decc/Consultations/plutonium-stocks/3694-govt-resp-mgmt-of-uk-plutonium-stocks.pdf>

reuse of plutonium will therefore need to satisfy the Justifying Authority that this is the case.

- 2.6 The aim of the consultation was to set out, and seek views on, the proposed process for making applications, and the decision-making process for justification decisions concerning the reuse of plutonium as a means of long-term management of the UK's separated civil plutonium stockpile.
- 2.7 Alongside the response to this consultation, DECC has produced guidance outlining the process for making applications and the decision-making process. This is to assist prospective applicants by setting out the key aspects required in an application in a clear and concise way.

### About the consultation

- 2.8 Thirty-five responses were received to the consultation. These came from a range of respondents including individual members of the public, companies involved in the energy industry, Non-Governmental Organisations (NGO's), including local campaigning groups and local authorities.
- 2.9 All responses have been published on the Department's website.

### Format of Government response

- 2.10 While all responses have been considered, this document does not attempt to set out the UK Government's response to every single point raised in response to the consultation; instead, it concentrates on the key themes which arose from the consultation and the issues considered by the Department.
- 2.11 "Guidance for Applicants" has also been published alongside this document which has been developed having considered the responses to the consultation.
- 2.12 Annex A contains the full list of consultation questions for reference. Annex B provides a list of the individuals and organisations who responded to the consultation.

# 3. Responses to the specific questions

## Generic Guidance

**Q1: Do respondents agree with the Government's view that it is sensible to issue generic guidance for the reuse of plutonium?**

3.1 The consultation document set out the preferred approach; to produce generic guidance to applicants which, rather than being limited specifically to the consideration of applications which are for the reuse of Plutonium as MOX, will additionally enable applications for a wide range of potential reuse technologies. This would therefore provide a more flexible and adaptable approach to applicants.

### Responses

3.2 The majority of responses to this question considered that generic guidance would provide a high-level, flexible and proportionate framework, maintaining the ethos of the regulatory justification process and aligning the UK approach with other European practices. However, some noted that if the guidance was too general there was a greater risk of challenge to any application.

3.3 A few responses suggested that the guidance should request that an application consider all of the practices required to manage the full stockpile of separated plutonium covering the vast majority through reuse and also consider the remainder through immobilisation as a separate process. This implied that the applicant should justify why their practice was better than other potential practices for the long-term management of plutonium.

### Government's conclusion

3.4 *Given that the final decisions on reactor choices for the whole programme of new nuclear build have yet to be made, and that these reactors would be essential to the process for reuse of plutonium as MOX fuel, it would be prudent to keep the option of different reactor types and technologies open. For example, since the consultation closed, the sale of Horizon to Hitachi has led to the possibility of another reactor type being used in the UK. Additionally, alternative technologies may come forward that might represent a better option for the taxpayer. Providing guidance which is therefore generic and adaptable to the decisions of the future would allow future applications to be brought forward under the same framework. The decision to apply for justification of any particular technology or group of technologies should rest with the applicant.*

- 3.5 *The Justification process seeks to ensure that the benefits of the practice applied for by the applicant outweigh the health detriment. It is not a process for judging or optimising between different practices and processes, neither is it the process for deciding on what methods or practices may be used on plutonium that may not be included in the reuse practice.*

## Clear, appropriate and proportionate process

**Q2: Is the proposed application and decision-making process clear, appropriate and proportionate? If not, how can they be improved?**

- 3.6 The consultation document set out the proposed application and decision-making processes for the regulatory justification of reuse of plutonium. Within this process, applications would need to contain a sufficient level of detail to enable the Justifying Authority to assess the benefits and detriment of the practice the application relates to.
- 3.7 Generic guidance would not stipulate the level of detail required for the application process. Any application would need to provide sufficient technical data, relating to the benefits and health detriment associated with the practice, to allow an informed justification decision to be made.

### Responses

- 3.8 A majority of responses agreed that the process for both application and decision-making was clear, appropriate and proportionate, whilst, a number of responses appeared to regard justification as part of the process for technology selection.
- 3.9 There was concern from one respondent that the Secretary of State would not be sufficiently independent in making a decision on justification. Others suggested that the collaborative nature of the application process was not explicitly captured.

### Government's conclusion

- 3.10 *The process set out in the consultation document gives a clear indication of the process for making an application and how it might be considered. Justification is a high-level process that may be applied across a range of technologies and is not part of the process for specific technology selection for the management of UK plutonium.*
- 3.11 *The potentially complex nature of applications and the desire to create a process that is user-friendly and proportionate will mean that a collaborative*

*approach is necessary; ensuring that the applications, when submitted, contain all the necessary information, and are presented in a coherent way to reduce unnecessary administrative burdens.*

3.12 *A collaborative approach to ensure that applications are sufficient and comprehensible does not mean that the position of the Secretary of State as the decision maker (through his role as the Justifying Authority) is compromised. The Secretary of State will be required to act objectively and must be able to make an unbiased assessment of the total benefits against the health detriment arising from the process outlined in any application. We do not consider that the level of engagement with an applicant necessary to ensure the matters set out above would compromise this independence.*

## Information required for an application

**Q3: Is the indicative list of information in Table 1 sufficient and appropriate to assist in the making of justification applications and justification decisions? Does the indicative list omit any relevant information, or include any unnecessary information?**

3.13 The consultation document set out an illustrative list of information which would suggest the main areas that prospective applicants may wish to consider when making an application. It also provides a framework for the Justifying Authority, to assist in making decisions on justification applications.

3.14 To facilitate the justification decision, the Justifying Authority will require information on both the anticipated benefits and detriment arising from the implementation of the practice and the benefits and detriment brought about by the materialisation of any risks. For potential detriment, the applicant should explain how the risks of their occurrence are adequately controlled or mitigated below the acceptable regulatory limits.

3.15 It was made clear that the list was neither prescriptive nor exhaustive and that applicants were able to provide supplementary information if it would be helpful to their application.

## Responses

3.16 A majority of respondents considered the illustrative list to be sufficient and appropriate. Some respondents considered that certain risks, such as hostile or terrorist acts, should be more explicitly considered.

- 3.17 Several responses highlighted that applications for different technologies may give rise to different benefits in terms of the amount of the stockpile that may be put beyond reach. It was suggested that, as part of any application, the proportion of the plutonium likely to be reusable by different technologies should be stated clearly in the application as one of the information requirements.
- 3.18 There were different suggestions over the level of detail and specificity required in an application; several respondents suggesting a more generic justification of a grouping of technologies might be more appropriate and proportionate whilst some suggested that a high level of detail should be provided for each technology.

### **Government's Conclusion**

- 3.19 *The required illustrative information set out in the consultation document allows for either technology-specific or more generic applications to be made. Alongside, and even within the Government's preferred option of reuse as Mixed Oxide fuel, there are a number of possible technologies which might be utilised to manage the plutonium stockpile. Some of these technologies are at different levels of maturity and whilst adequate estimates of benefits and disbenefits based upon historical or provisional data may be produced it might not yet be possible to provide evidence at the specific level of detail being suggested by some respondents.*
- 3.20 *It is therefore appropriate that the application process be accessible to new classes and types of practice and that the level of detail required should not prohibit future technologies from coming forward.*

## **Improvements to the proposed process**

**Q4: Are there any other ways in which the draft justification process can be improved? If so, how?**

### **Responses**

- 3.21 There were a number of suggestions, including around the specificity of any application, and proposals around the clarity of the processes, procedures and levels of engagement at each stage. However, there were no common areas for improvement suggested by respondents, other than those covered under the other questions.

### **Government's Conclusion**

3.22 *A number of improvements have been made to the process, including some suggested by respondents and some already discussed under the previous consultation questions. Additionally, some individual comments made in the consultation responses have been incorporated into the Guidance for Applicants.*

## 4. Next steps

### Guidance for Applicants

- 4.1 The Guidance for Applicants accompanying this consultation response sets out the proposed process and information required to make an application for justification of the end-to-end process.
- 4.2 DECC's Justification Team, will provide ongoing support to prospective applicants to assist in developing an application for justification. It is envisaged that the application process would ordinarily take around 18 months to 2 years to complete.
- 4.3 Once a formal application has been received, it will be published in line with the process published in the Guidance for Applicants.

# Annex A

## Catalogue of Consultation Questions

Question Number	Consultation Question
1.	Do respondents agree with the Government's view that it is sensible to issue generic guidance for the reuse of plutonium? We welcome comments on this proposed approach.
2.	Is the proposed application and decision-making process clear, appropriate and proportionate? If not, how can they be improved?
3.	Is the indicative list of information in Table 1 sufficient and appropriate to assist in the making of justification applications and justification decisions? Does the indicative list omit any relevant information, or include any unnecessary information?
4.	Are there any other ways in which the draft justification process can be improved? If so, how?

# ANNEX B

## List of respondents

Areva  
Braystones Residents  
Christopher Gifford  
Copeland Borough Council  
CORE (Cumbrians Opposed to Radioactive Environment)  
Cumbria County Council  
Dalton Institute  
David Siddall  
DBD Ltd  
Eunice Wormald  
GE Hitachi  
Gordon Mackerron and Frank Von Hippel  
Greenpeace  
H A Prowse  
Health Protection Agency  
Horizon  
John Busby  
Mark Salisbury  
Mary Lawley  
Mike Franks  
NIA  
Northern Ireland Environment Agency  
Nuclear Free Local Authorities  
Nuclear Institute  
NuLEAF  
PCAH  
Peter Riley  
Radiation Free Lakeland  
Reverend Hazel Barkham  
Scottish Water  
SEPA  
Shetland Islands Council  
Steve Balogh  
Tom Clements (Alliance for Nuclear Accountability)  
West Cumbria and Lakes Friends of the Earth

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