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Llywodraeth Cymru
Welsh Government

Managing radioactive substances and nuclear decommissioning policy consultation

Government response



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Contents

Introduction	4
Managing radioactive sources	5
Managing radioactive liquid and gaseous discharges	7
Managing solid radioactive waste in the nuclear and non-nuclear sectors	9
Risk-informed approach	9
Application of the waste hierarchy	11
Near surface disposal of intermediate level waste in England and Wales	14
On-site disposal	23
Nuclear decommissioning	26
Import and export of radioactive substances	31
Managing nuclear materials and spent fuel	33
Issues raised beyond the scope of the consultation proposals	36
Annex 1: List of respondent organisations	40

Introduction

This document provides a summary of responses to the consultation by the UK Government and devolved administrations, *Managing Radioactive Substances and Nuclear Decommissioning*, which was published on 1st March 2023 and closed on 24th May 2023.

It includes a short summary of the consultation proposals, a summary of the substantive points raised by consultees and the UK Government and devolved administrations' response to the points raised.

The consultation sought views on a consolidated and updated UK-wide policy framework on managing radioactive substances and nuclear decommissioning. The consultation included proposals to amend, update and clarify some of these policies with the aim of driving improvements in nuclear decommissioning and clean-up programmes along with the management of radioactive materials, and the waste they generate.

We received 330 responses to the consultation from members of the public, local government, nuclear site stakeholder groups, industry, the regulators, and interest groups. Of these responses, 136 raised issues that were beyond the scope of the consultation, nonetheless we have addressed the points raised in these responses on page 36. A list of organisations that responded and gave their permission for their identifying information to be published can be found at Annex 1.

The number of respondents who agreed and disagreed with each question has been provided for context. Some respondents did not specifically indicate whether they agreed or disagreed with the proposals. Where we have not been able to ascertain the consultee's position, we have marked the answer as unknown. Not all respondents answered each question.

Throughout the document the terms and phrases shown in table 1 are used to indicate number and percentage ranges of responses to each question. These do not include responses that were "unknown".

Table 1

"A small number"	< 10 respondents
"A few"	< 30%
"Some"	30%-70%
"Many"	> 70%
"Majority"	> 50%

This summary of responses follows the structure of the final policy which has been published alongside: <https://www.gov.uk/government/consultations/managing-radioactive-substances-and-nuclear-decommissioning>.

Managing radioactive sources

Do you think that the draft policy statements on radioactive sources accurately reflects existing practice and regulation? Please provide the reasoning behind your response.	
Agree	25
Disagree	19
Unknown	41
Total	85
Do you have any suggestions on how to improve this chapter on radioactive sources? Please provide the reasoning behind your response.	
Total	83

Consultation proposal

The consultation set out a draft policy statement which consolidated existing practices and regulation on radioactive sources. The management of radioactive sources is devolved except for matters of national security, which is reserved.

Summary of responses

The majority of respondents thought the policy statement accurately reflected existing regulation and practices. The following suggestions were made to improve the policy statement:

- some respondents thought the policy statement contained too much detail about regulatory requirements, including descriptions of minor differences between England, Wales, Scotland and Northern Ireland;
- many respondents suggested the policy could be improved by reducing unnecessary duplication;
- some respondents thought the policy should set out requirements at a UK-wide level with more detailed and technical information presented in supporting strategy and guidance documents;
- a small number of respondents asked for further clarity on when and how disused sources become waste, and how the waste hierarchy would apply to them. They also asked that it should be clarified that the requirement to report the movement of sealed sources to/from nuclear sites only applies to higher activity sealed sources;
- a few respondents suggested that there should be a national budget to dispose of orphan sources and clearer encouragement of their detection at high-risk areas.

The following concerns were raised by a small number of respondents who did not support the policy statement:

- the policy statement is too complex for the general public to be able to understand;
- all uses of radioactive sources and their import and export should be banned.

Government response

Radioactive sources can be used safely for a variety of beneficial purposes including in medicine, industry, research, and education. The objective of the policy is to allow the safe and beneficial use of radioactive sources.

We have retained the substance of the policy as drafted in the consultation. However, we have made a number of drafting changes to address the requests for further clarity and reduce unnecessary duplication. These include:

- simplifying the structure of the statement with supporting information provided separately;
- clarifying how the waste hierarchy should apply to radioactive sources;
- clarifying the specific requirements that apply to the efficient management of disused sources.

We have set out more clearly our commitment to encourage the detection of orphan sources, particularly at high-risk areas such as scrapyards and ports of entry. We remain committed to developing a long-term funding solution for their disposal.

Managing radioactive liquid and gaseous discharges

Do you think that the draft policy statement on radioactive liquid and gaseous discharges accurately reflects existing policy, practice and regulation? Please provide the reasoning behind your response.	
Agree	23
Disagree	4
Unknown	56
Total	83
Do you have any suggestions on how to improve this chapter on radioactive liquid and gaseous discharges? Please provide the reasoning behind your response	
Total	81

Consultation proposal

The consultation set out a draft policy statement which consolidated existing practices and regulation on liquid and gaseous discharges. Radioactive waste policy, including for liquid and gaseous discharges, is devolved.

Summary of responses

The majority of respondents thought the policy statement accurately reflected existing regulation and practices. The following suggestions were provided on how to improve the policy statement:

- clear and explicit direction on the application of the waste hierarchy to liquid and gaseous waste should be considered;
- the policy document should be checked for consistency with relevant Statutory Guidance on the regulation of discharges into the environment and the UK's Radioactive Discharges Strategy;
- the recommendations of the UK Health Security Agency (UKHSA) review of radioactive liquids should be considered and incorporated into the policy statement;
- the level of detail about the current regulations and technical terms should be reduced as it is not always clear what is intended to be a statement of policy and what is not;
- the policy should set out requirements at a UK-wide level with more detailed and technical information presented in supporting strategy and guidance documents.

The following concerns were raised by a small number of respondents who did not support the policy statement:

- all radioactive waste producing schemes should be banned;
- more stringent research and environmental protection is needed.

Government response

The substance of the policy remains as drafted in the consultation. The unnecessary introduction of radioactivity into the environment is undesirable, even at levels where doses to humans and other species are low. Where this is not reasonably practicable, or unavoidable, the overriding principle should be that operators disposing of gas and liquid through discharges to the environment must ensure that they are below the relevant dose constraints to protect people and the environment.

We have made a number of drafting changes to the final policy statement to address the requests for further clarity and reduce unnecessary duplication. These include:

- simplifying the structure of the statement with the supporting information presented separately;
- clarifying in chapter 8 how the waste hierarchy applies to liquid and gaseous waste pre-discharge.

We are currently considering the UKHSA recommendations and expect to consult on some of them in due course. Any changes are likely to be technical ones which are better reflected in guidance, rather than policy.

Managing solid radioactive waste in the nuclear and non-nuclear sectors

The solid radioactive waste policy includes existing policy and policies that would be implemented if the proposals in Part 1 are taken forward. Do you agree that the policy statement captures all relevant policy on managing solid radioactive waste?	
Agree	26
Disagree	25
Unknown	31
Total	82
Do you have any suggestions for how this chapter on managing solid radioactive waste could be improved? Please provide the reasoning behind your response.	
Total	96

Responses to the questions above are captured in the following sections.

Risk-informed approach

Do you agree with the proposal to require the application of a risk-informed approach as a decision-making framework for the management of all solid radioactive waste? Please provide the reasoning behind your response.	
Agree	74
Disagree	31
Unknown	27
Total	132

Consultation proposal

The consultation put forward proposals to require those responsible for creating and managing solid radioactive waste to apply a risk-informed approach as a decision-making framework for managing all solid radioactive waste. This is already policy for higher activity radioactive waste in Scotland and low level waste (LLW) across the UK. A risk-informed approach means basing decisions on how to manage the waste on all of its properties (radiological, chemical, physical) and the risks and hazards it poses to people and the environment, rather than basing decisions primarily on the waste's radioactivity classifications. Policy on managing radioactive waste is devolved.

Summary of responses

The majority of respondents supported the proposals. Those who supported the proposal did so for the following reasons:

- a risk-informed approach to radioactive waste management represents international best practice and is a tried and tested and a well-established approach used throughout the nuclear industry;
- it is cost effective, would bring efficiency gains and a consistency of approach across all parts of the UK (already evidenced by applying the risk-informed approach to LLW);
- the policy's proportional, pragmatic, and holistic approach to radioactive waste management should ensure that waste is treated in the most appropriate way according to its properties and the nature and length of time it poses a hazard;
- it will (in combination with other proposals in the consultation), contribute to protecting and preserving key infrastructure such as the Low Level Waste Repository (LLWR) and the planned geological disposal facility (GDF);
- it will reduce the need for interim storage facilities.

The following concerns were raised by those who did not support the proposal:

- a few respondents raised concerns that adopting a risk-informed approach would be less safe or riskier for people and the environment than a “belt and braces” approach of using the radioactive waste categories;
- a small number of respondents raised concerns that waste producers will be incentivised to make riskier choices if they are cheaper.

In addition, respondents sought further clarity on;

- how a risk-informed approach would be applied in practice and would operate alongside the existing regulatory framework;
- how a risk-informed approach will work alongside the radioactive waste classifications;
- the application of a risk-informed approach to liquids and gaseous waste.

Government response

Adopting a risk-informed approach as a decision-making framework for the management of all radioactive waste will not result in a lowering of safety standards. The UK Government and devolved administrations are committed to maintaining the highest standards of safety, security and environmental protection. The independent regulators will ensure the highest standards of safety, security and environmental protection are maintained and will take enforcement action if operators are not adhering to those standards.

A risk-informed approach is designed to encourage proportionate and sustainable decision making on the appropriate management route for radioactive waste, so that operators consider

the full range of risks and hazard posed by the waste to people and the environment. Radioactive waste classifications will continue to be used as part of a risk-informed approach.

We have made a number of changes and additions to the text in the final policy to address the requests for further clarity. This includes making it clear that a risk-informed approach applies to management of solid, liquid, and gaseous waste.

Application of the waste hierarchy

Do you agree that application of the waste hierarchy should be an explicit requirement for the management of all solid radioactive waste where practicable? Please provide the reasoning behind your response.	
Agree	80
Disagree	37
Unknown	20
Total	137

Consultation proposal

The consultation put forward proposals to require the application of the waste hierarchy for managing all categories of solid radioactive waste. This is already policy for higher activity radioactive waste in Scotland and LLW across the UK. A more uniform application of the waste hierarchy aims to ensure that the creation of radioactive waste is prevented or minimised. Policy on managing radioactive waste is devolved.

Summary of responses

The majority of respondents supported the proposal. Those who supported the proposal did so for the following reasons:

- application of the waste hierarchy represents international best practice and would bring radioactive waste management into alignment with other industries, including the non-radioactive waste management industry;
- it is in alignment with government's wider environmental policies in encouraging material re-use and recycling;
- it will lead to cost savings due to efficiency gains in having more unified management practices across waste classifications and across the UK;
- it will (in combination with other proposals) contribute to protecting and preserving key infrastructure such as the LLWR and the planned GDF;
- it will help reduce the need for interim storage facilities;

- a few respondents noted the benefits that application of the waste hierarchy has brought to LLW management in England and Wales and to higher activity radioactive waste management in Scotland;
- supportive responses focused on the benefits of applying sustainable principles, such as application of the waste hierarchy, in protecting human health and the environment.

The following concerns were raised by those who did not support the proposal:

- a few respondents raised concerns that without proper protection and oversight application of the waste hierarchy will increase the risk to the public and/or the environment;
- a small number of respondents argued that we should prevent all radioactive waste from being generated through banning the use of radioactive materials (this point is addressed in the section starting on page 36);
- a few respondents suggested that “re-use” should not be an option on the waste hierarchy where immediate re-use is not possible.

In addition;

- a few respondents highlighted the importance of ensuring sufficient waste characterisation capacity to ensure the benefits of the waste hierarchy are achieved;
- some respondents sought further clarity on how the waste hierarchy would be applied in practice and how it would operate alongside the existing regulatory framework;
- a few respondents sought clarity on the application of the waste hierarchy to liquid and gaseous waste and on the interaction between this chapter and the chapter on liquid and gaseous discharges.

Government response

We have made a number of small drafting changes and additions to the text in the final policy to address requests for further clarity and additions.

Safety and environmental impact

The UK Government and devolved administrations place great importance on nuclear safety, security and environmental protection and will continue to maintain the same high standards in these areas. The independent regulators will ensure the highest standards of safety, security and environmental protection are maintained and will take enforcement action if operators are not adhering to those standards.

Re-use of radioactive materials

The waste hierarchy is a well-established tool that has been used for many years both nationally and internationally in multiple sectors. Removing the option of “re-use” from the waste hierarchy for materials where immediate re-use is not possible would lead to missed

opportunities to keep using resources for as long as possible and extract maximum value for them, leading to worse environmental outcomes.

Waste characterisation

The UK Government and devolved administrations acknowledge the importance of waste characterisation in delivering effective radioactive waste management. Our policies aim to provide flexibility to enable a successful waste services market, including waste characterisation. The UK Government and devolved administrations will continue to monitor the effectiveness of these to ensure there is sufficient capacity in the market to meet both current and future demands.

Application to liquid and gaseous waste

We have made a number of changes to the policy to make it clearer that the waste hierarchy applies to the predisposal management of solid, liquid and gaseous waste. Disposal is the last stage of the waste hierarchy. Chapter 7 covers the disposal of liquid and gaseous waste through permitted discharges to the environment. Chapter 8 covers disposal of solid radioactive waste, including liquid waste that has been immobilised and is to be disposed of as solid waste.

Near surface disposal of intermediate level waste in England and Wales

Do you agree with the proposed amendment to current policies on geological disposal to allow disposal of ILW in near surface disposal facilities? Please provide the reasoning behind your response.	
Agree	64
Disagree	61
Unknown	13
Total	138
Do you agree with the proposed policy framework for the development of near surface disposal facilities by the NDA for the disposal of less hazardous ILW? Please provide the reasoning behind your response.	
Agree with	64
Disagree	78
Unknown	17
Total	159

Consultation proposal

We proposed to amend the policies of the UK Government and devolved administrations of Wales and Northern Ireland on implementing geological disposal to make clear that not all intermediate level waste (ILW) must be disposed of in a GDF. Where it is safe to do so less hazardous ILW can be disposed of in near surface facilities. It does not need the containment and isolation afforded by a GDF to be managed safely. Near surface disposal offers a quicker, more cost-effective and sustainable solution for disposal of this type of waste. Scotland has its own separate policy for the near surface management of higher activity radioactive waste (which includes ILW) that remains in force and was not the subject of this consultation¹. The subsequent paragraphs in this section including the Government response refer only to policy in England, Wales and Northern Ireland.

We also asked for views on a proposed policy framework for the development of near surface disposal facilities for less hazardous ILW in England and Wales. This set out the proposed siting policy for near surface disposal facilities in England and Wales including that planning consent should be obtained through the Town and Country Planning Act.

¹ Scottish Government. Radioactive Waste Policy. Available at: <https://www.gov.scot/policies/nuclear-energy/radioactive-waste/>

Summary of responses

There was a fairly even split between respondents who agreed with the proposal to allow disposal of less hazardous ILW in near surface facilities and those who disagreed.

Those who agreed with the proposals cited the following reasons for their support:

- the approach would be proportionate to the risk the waste poses, since it does not require the isolation and containment that a GDF will provide;
- it aligns with a risk-informed approach to waste management;
- it would provide more flexible and cost-effective waste disposal options;
- it would bring environmental benefits, as well as preserving capacity in key infrastructure, including the GDF, and will reduce the need for interim storage facilities;
- it supports the Nuclear Decommissioning Authority (NDA) clean-up mission and will enable the acceleration of decommissioning;
- near surface disposal facilities for the disposal of ILW have been operating safely in other countries for many decades, and the approach is consistent with international guidelines.

Respondents who did not agree with the proposals, or who offered qualified support, raised the following issues:

- concern that near surface disposal of ILW would be unsafe and harm people and the environment;
- waste placed in a near surface disposal facility (and a GDF) should be monitorable and retrievable;
- the proposal for near surface disposal of ILW lacked sufficient evidence and further analysis is needed before any decision to take it forward is made;
- more clarity is needed on the types of waste that are suitable for near surface disposal;
- the definition of near surface disposal is not sufficiently clear;
- proposals for near surface disposal could have an adverse effect on the current siting process for a GDF;
- concerns around the proposed land use planning process for near surface disposal, negative community impact and whether the policy is sufficiently clear about community engagement and benefits;
- identifying a suitable site for near surface disposal and whether it should be restricted to NDA owned land or licensed sites, or left more open;
- the policy is overly restrictive in respect of the private sector's role in delivering disposal facilities and in providing flexibility in disposal options.

Government response (England, Wales and Northern Ireland only)

Safety

Respondents were concerned about the impact on humans, as well as on the environment and marine life. Some of those who mentioned safety referenced the Nirex Inquiry of the 1990s, stating that the proposals ignore the report's findings and that the plan for near surface disposal would mean harmful quantities of radioactivity from ILW would reach groundwater and the surface environment sooner than would be the case for deep geological disposal.

The UK Government and devolved administrations are clear that any near surface disposal facility will not be built unless the NDA and Nuclear Waste Services (NWS) can demonstrate through an environmental safety case to the independent regulators that people and the environment will be protected.

The 'Near Surface Disposal Facilities on Land for Solid Radioactive Wastes – Guidance on Requirements for Authorisation – February 2009 (GRA)'², published jointly by the environmental regulators in the UK, explains the requirements a developer is expected to fulfil when they apply for an authorisation to develop these disposal facilities to demonstrate that their facility will protect people and the environment. They need to show that their approach to developing a facility - including its design, construction, operation and closure - will meet a series of principles and requirements and they need to set this out in an environmental safety case.

Near surface disposal facilities employ a range of barriers to minimise the potential for water to come into contact with the waste. One of the main considerations for a near surface disposal facility would be to design very effective containment barriers to protect people and the environment from harmful releases of contaminants. These barriers will be specific to any given location and assessments will take account of the potential for waste to be disturbed through natural processes such as coastal erosion.

Other countries have already safely developed near surface disposal facilities for some ILW. These include the Centre de L'Aube facility, in France, which has been operating since 1992 for the disposal, in surface vaults, of LLW and short-lived ILW, and the VLJ repository in Finland which takes LLW and ILW in silos 60-100 metres below ground.

The Nirex Inquiry in the 1990s related to a planning application for an underground laboratory that was intended to gather more data to support a potential further application for a GDF for a particular inventory of waste at a particular location. This is not the same as the areas that are currently the focus of studies looking at the potential for a GDF elsewhere. The project ended after Nirex failed to secure planning permission for the underground laboratory. Geological data gathered by Nirex was provided to the British Geological Survey and remains available for other projects to access.

² EA, SEPA & NIEA (2009) Near-Surface Disposal Facilities on Land for Solid Radioactive Wastes: Guidance on Requirements for Authorisation. Available at: <https://www.gov.uk/government/publications/near-surface-disposal-facilities-on-land-for-solid-radioactive-wastes>

Retrievability of waste from disposal facilities

The purpose of a near surface disposal facility (or a GDF) is to dispose of waste, not to store it. There are no plans to design a near surface disposal facility or a GDF with retrievability in mind.

During the operational stage of a near surface disposal facility and a GDF (when waste is being accepted), waste that has been placed into the facilities could be retrieved if there was a compelling reason to do so. Permanently closing these facilities at the earliest possible opportunity once operations have ceased provides for greater safety and security. It also minimises the burden on future generations of managing the waste by reducing the need for prolonged storage, storage facility construction and maintenance, and possible waste repackaging.

Evidence base, options analysis and benefits of near surface disposal

Near surface disposal is not a new idea. Various concepts of near surface disposal have already been evidenced as safe and suitable disposal routes for LLW in the UK, and overseas, for both LLW and parts of the ILW inventory. Both the LLWR and the Dounreay Low Level Waste Facility are near surface disposal facilities.

Any decision by the NDA to proceed with near surface disposal of ILW will need to be evidenced by a robust business case and underpinned by a rigorous safety case. Initial costings provided in the consultation are very conservative. They do not include potential savings from waste packaging where near surface disposal waste acceptance criteria are likely to differ from those of a GDF. In addition, savings due to early site clearance are not considered. The potential savings may appear modest in the context of the wider cost of decommissioning; however, the UK Government and the devolved administrations of Wales and Northern Ireland make no apologies for proposals that will bring savings to UK taxpayers.

The policy of the UK Government and devolved administrations of Wales and Northern Ireland, requires the NDA to consider other disposal options that could potentially improve our overall long-term management of the waste currently destined for a GDF. The NDA has undertaken a significant amount of technical work to assess the feasibility of near surface disposal for ILW. This included examining four different near surface disposal concepts to assess their suitability, as outlined in the Near Surface Disposal Strategic Position Paper.³

It is the intention of the UK Government and devolved administrations of Wales and Northern Ireland to provide sufficient flexibility in the policy to ensure the NDA can develop near surface disposal facilities according to need and value for money. The policy does not, therefore, specify a preferred concept, nor provide a plan or process for delivery in England and Wales.

³ Nuclear Decommissioning Authority (2020) Near-Surface Disposal Strategic Position Paper. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/910184/NSD_StrategicPositionPaper_August_2020_FINAL_V2.pdf

Clarity on suitable wastes for near surface disposal

The ILW category is vast and includes a range of different wastes with varying physical, chemical and radiological properties. The waste that may be suitable for disposal in near surface disposal facilities would only be a sub-set of the ILW inventory and a GDF will always be required for more hazardous ILW as well as high level waste (HLW), and nuclear materials that could become waste at some point in the future.

We have added in the final policy, published alongside this response, examples of potentially suitable types of waste. This is not an exhaustive list. Each site specific environmental safety case will specify detailed waste acceptance criteria for the disposal facility, that define and constrain the types, characteristics and quantities of waste that can be disposed of in that near surface disposal facility.

Definition of near surface disposal

We have amended the policy to clarify that a near surface disposal facility for ILW is a facility that could be located at or below the surface (up to 200 metres, the minimum depth of a GDF), and may make use of existing structures.

Planning Consent

Views on the proposed planning approach were mixed, however, only a minority of respondents (25) commented on planning. The majority that commented were not in favour of the planning decision for near surface disposal being taken by the local planning authorities with some stating a preference for designation of near surface disposal facilities as nationally significant infrastructure projects (NSIPs).

Those that were in favour of the proposed planning route commented that near surface disposal should be subject to all local planning requirements.

Those who argued against the Town and Country Planning Act as the appropriate planning route for near surface disposal facilities made the following points:

- near surface disposal is a major project and a national facility providing a service to the whole nation and should not therefore be subject to decisions by the local planning authorities;
- near surface disposal should have a national policy statement and be subject to Parliamentary scrutiny. It would also be an appropriate way to ensure interested parties have the opportunity to contribute to the development of siting criteria and the selection of suitable locations;
- the NSIP regime provides more certainty to successful and timely delivery and greater alignment with the current NSIP process for hazardous waste sites;
- local planning authorities do not have the resources or expertise to deal with near surface disposal;
- appropriate engagement with the community is necessary, the statutory minimum of 21 days consultation under the Town and Country Planning Act is not sufficient.

It is the view of the UK and Welsh Governments that the Town and Country Planning Act remains the appropriate planning route for near surface disposal facilities for some less hazardous ILW in England and Wales. Whilst a near surface disposal facility could potentially serve the rest of the UK, the scale of the construction and expected waste for disposal will be modest. It is estimated that the area used for disposal could be around 0.01 km² and take between 14,000 m³ and 21,000 m³ of waste by 2040. For comparison, the GDF could cover an area of approximately 1 km² above ground and 10-20 km² underground, depending on the geological setting, and dispose of an upper estimate of 773,000 m³ of radioactive waste.

Whilst some hazardous waste sites are consented as NSIPs, the criteria used to determine this are based on the volume of the waste being disposed of.⁴ By comparison, the NDA estimate of the volume of potentially suitable ILW that could go into a near surface disposal facility by 2040 is significantly smaller. The UK and Welsh Governments do not therefore consider that near surface disposal facilities for less hazardous ILW should be considered NSIPs.

We recognise that making near surface disposal an NSIP would mean Parliament could scrutinise any National Policy Statement that was made. However, the LLWR is an existing near surface disposal facility and the most recent planning permissions for the site were obtained from the local authority through the Town and Country Planning Act. The UK and Welsh Governments consider the same approach should be taken with any further near surface disposal facilities. It is UK Government policy to keep planning decisions in local hands as far as possible.

We also recognise that there are concerns that local planning authorities in England and Wales may not have the resources to consider a planning application for a near surface disposal facility, and that they, as well as the wider planning sector, face serious capacity and capability challenges. To address this, the UK Government announced on 24 July 2023, a commitment to put an additional £37.5 million funding into the system to clear planning backlogs in England.

In addition, the UK and Welsh Governments would encourage the NDA to implement a Planning Performance Agreement with the local planning authority in England and Wales in which a near surface disposal facility is proposed. Planning Performance Agreements set out an efficient and transparent process, with agreed timescales, actions and resources for determining the project, and opportunities for communities to engage. A Planning Performance Agreement provides the local planning authority discretion to undertake additional community engagement, beyond the statutory 21-day consultation period when an application is submitted.

Community impact and engagement

The UK Government and devolved administrations of Wales and Northern Ireland are committed to ensuring local communities have a say in areas the NDA consider might be suitable for near surface disposal. Our view is that there needs to be flexibility in the NDA's approach to engaging with communities that takes into account the different needs and wishes

⁴ DEFRA (2013) National policy statement for hazardous waste: A framework document for planning decisions on nationally significant hazardous waste infrastructure. Available at: <https://www.gov.uk/government/publications/hazardous-waste-national-policy-statement>

of local communities. Communities are all different and a one size fits all approach is unlikely to deliver the best approach for all communities. We therefore do not intend to provide further detail in the policy. However, the NDA will publish a document that sets out its overarching approach for engaging with local communities, including how it can flex this to meet the needs of different communities and developments.

The UK Government and devolved administrations of Wales and Northern Ireland agree that the NDA should provide a community benefits package to the people that live in the local area of its chosen site or sites, as it currently does for those living near existing near surface disposal facilities, including the LLWR. However, we do not propose to provide any further detail in the policy. It is important that the benefits package is tailored to the needs of the community and is proportionate to the potential impact a near surface disposal facility may have on those living nearby. As set out in the consultation it will be for the NDA to determine the monetary value of the package and to work with the community to decide how it is to be administered and distributed in line with its existing socio-economic policies for supporting communities around NDA sites.

Siting

Comments on the approach to siting varied between those who said that siting options should be restricted to existing nuclear licensed sites, and others who commented that siting options should not be limited to NDA owned land, and that the policy should allow non-NDA owned land to be proposed. A small number of respondents noted that using NDA land for near surface disposal could prevent that land being used for new nuclear build. There was also concern from a few respondents that the draft policy says the NDA should explore expanding the LLWR to take less hazardous ILW. A small number of respondents noted that more guidance was needed on the siting criteria and requirements.

The UK Government and devolved administrations of Wales and Northern Ireland agree that limiting siting options for near surface disposal to only NDA owned land could potentially rule out other suitable locations being proposed. Whilst we anticipate that the NDA will primarily consider their own land, we do not want to preclude consideration of other possibilities in England and Wales. We have amended the final policy to reflect this. We do not agree that the location of near surface disposal facilities should be restricted to existing nuclear licensed sites.

As an existing near surface disposal facility for LLW, the UK Government and devolved administrations of Wales and Northern Ireland believe it is right to encourage the NDA to explore the potential for optimising the LLWR to take less hazardous ILW. The site is noted in the policy as one potential option. The UK Government and devolved administrations of Wales and Northern Ireland would like to be clear that no site in England and Wales has been selected. Any potential site would be subject to an environmental safety case, community engagement and planning consent.

The UK Government and devolved administrations of Wales and Northern Ireland agree that the NDA should develop clear siting criteria for any potential near surface disposal facility. We have amended the final policy to make clear the NDA will develop robust siting criteria, based

on technical, safety and suitability assessments, in line with the NDA's value framework⁵, with support from regulators and key advisory bodies.

Private sector role in waste disposal and flexibility in disposal options

Whilst the NDA is responsible for the clean-up of the UK's nuclear sites, the UK Government and devolved administrations agree that there is a role for the private sector in delivering waste management solutions, including disposal. Commercial operators, alongside the NDA's own permitted landfill sites, already provide capacity for disposal of both low and high volumes of very low level waste (VLLW) and low activity LLW.

We support expansion in the supply chain and encourage the NDA to explore commercial operators' proposals for waste management solutions. We have amended the policy to make this clear.

The UK Government and devolved administrations of Wales and Northern Ireland agree that the policy consulted on could be read as restricting the NDA from proposing alternative disposal technologies that could be developed in future. At the moment, no credible alternative disposal technologies have emerged that would accommodate all of the categories of waste in the inventory for disposal and it is clear that a GDF will remain necessary for some types of radioactive waste. However, practical alternatives to a GDF could emerge for parts of the inventory, and the NDA and NWS continue to review these, including learning from and engaging with overseas programmes. We agree that the NDA (directly or with the supply chain) should be able to propose alternative disposal technologies for parts of the inventory should they be shown to be viable in the future. Any proposals would be subject to public consultation before a decision is made on their use and be subject to regulatory approvals. We have amended the final policy to make this clear.

Impact on the GDF

The UK Government and devolved administrations of Wales and Northern Ireland would like to be clear that the proposal for near surface disposal facilities does not affect the case for, or timing of, a GDF. Whilst some less hazardous radioactive waste can be safely disposed of in near surface disposal facilities, a GDF will always be required to dispose of the most hazardous radioactive waste.

Working with Communities policy

The respective Working with Communities policies of England and Wales were not part of this consultation and the process remains as it was originally set out in the policy papers: Implementing geological disposal – working with communities: long term management of higher activity radioactive waste,⁶ and Geological Disposal of Higher Activity Radioactive

⁵ NDA (2021). Available at: <https://www.gov.uk/government/publications/nda-value-framework-how-we-make-decisions>

⁶ DESNZ (2018). Implementing geological disposal – working with communities: long term management of higher activity radioactive waste. Available at: <https://www.gov.uk/government/publications/implementing-geological-disposal-working-with-communities-long-term-management-of-higher-activity-radioactive-waste>

Waste: Working with Communities.⁷ However, we have made some minor drafting changes, including to reflect that Radioactive Waste Management (RWM) has been incorporated into Nuclear Waste Services (NWS) and removing the term higher activity radioactive waste to ensure consistency with other chapters in the policy.

As set out in paragraph 5.13 of the consultation we have amended paragraphs 55-57 in the Working with Communities policy for England and paragraphs 55-57 in the Working with Communities policy for Wales to reflect the UK Government's ambition to increase deployment of nuclear power up to 24 GW.

⁷ Welsh Government (2019). Geological Disposal of Higher Activity Radioactive Waste: Working with Communities. Available at: <https://www.gov.wales/sites/default/files/publications/2019-04/geological-disposal-of-higher-activity-radioactive-waste-guidance-for-communities.pdf>

On-site disposal

Do you agree that the policy of the UK Government and devolved administrations should promote the use of on-site disposal of radioactively contaminated waste from the decommissioning of nuclear sites, subject to environmental permits? Please provide the reasoning behind your response.	
Agree	61
Disagree	46
Unknown	20
Total	127

Consultation proposal

The consultation proposed that the UK Government should promote the use of on-site disposals, subject to environmental permits.

Summary of responses

Around half of respondents agreed with the proposal, though a few respondents disagreed that on-site disposal should be 'promoted'. Those who supported the proposal agreed that on-site disposal:

- can be more efficient cost-effective, and more sustainable;
- avoids unnecessary transport of waste;
- is consistent with the UK Government's wider policy objectives on the final stages of decommissioning that were consulted on in 2018.⁸

A few respondents sought clarity on:

- when planning permission would be required for on-site disposal;
- the impact of on-site disposal on the end state of a site;
- how on-site disposal will be regulated;
- whether benefits would be made available for communities living near former nuclear sites with the presence of on-site disposals.

The following concerns were raised by those who did not support the proposal:

⁸ UK Government. The Regulation of Nuclear Sites in the in the final stages of decommissioning and clean-up. Available at: <https://www.gov.uk/government/consultations/the-regulation-of-nuclear-sites-in-the-final-stages-of-decommissioning-and-clean-up>

- allowing on-site disposals could lead to a reduction in standards of safety and environmental protection.

Government response

The UK Government and devolved administrations agree that it is not appropriate to promote on-site disposal and that it should not be promoted above any other disposal method. On-site disposal should be considered as an option for the disposal of radioactive waste on nuclear sites during the end stages of decommissioning when radiological hazards and risks to the environment and people's health are low.

Planning

The UK Government and devolved administrations have clarified in the final policy that planning permission will be required in all cases where an engineered disposal is proposed, or when a proposed disposal would change the purpose for which the land is used.

The Department for Energy Security and Net Zero has developed user guidance for on-site disposal of LLW and VLLW on nuclear and former nuclear sites in England. This guidance includes recommendations for operators and planners. This guidance will be published in due course. The Welsh Government is currently considering plans for specific guidance for such disposals in Wales.

The effects of on-site disposals on site end states

Local communities will be active participants in the decision-making process for site end states on NDA sites as set out under environmental and planning regulation. Requirements for meaningful engagement and protections are provided for in environmental and planning regulation to ensure local communities are involved in the site end states decision process. Projected site end states are updated through an iterative process as decommissioning work progresses and are based on the scientific, policy and regulatory advice at the time to ensure the agreed end state is the best option for the safety of workers, the environment and local people.

Safety and environmental protection

On-site disposals will not result in a reduction of safety or environmental protection. They are already permitted under UK environmental regulation where the operator can demonstrate they are the best option for a particular site. The environment agencies will only permit disposals if they are satisfied that people and the environment will be protected, and appropriate monitoring will take place. To be clear, on-site disposal is very different to entombment, whereby more hazardous waste is sealed in place. The waste we are considering here presents a very low radiological hazard.

Sites with on-site disposals will continue to be regulated and monitored until the site reaches a satisfactory state such that it can be released from regulation. "Management of Radioactive waste from decommissioning of nuclear sites: Guidance on Requirements for Release from

Radioactive Substances Regulation”⁹ sets out the requirements for release from environmental regulation. For a site to be released from environmental regulation an operator must show that they have completed all work involving radioactive substances and, through a site-wide environmental safety case, that they have met all environmental safety standards.

Community benefits

We do not agree that community benefits would be proportionate to the minimal impacts on local communities caused by the presence of on-site disposals on former nuclear sites. The radiological risk presented by on-site disposals of low and very low level waste are minimal.. The impacts and hazards of on-site disposals are much lower than those of commercially operated disposal facilities for radioactive waste, due to the far smaller inventories of radioisotopes that will be present in on-site disposals.

On-site disposal will contribute to the earlier release of parts of sites for community use, and reduce the flow of traffic transporting material on and off site- as significant volumes of lightly contaminated waste will not need to be removed from site for disposal and fresh material will not need to be brought onto site to fill voids. We view the reduction of HGV traffic, vehicle emissions, and associated noise and dust (from wastes such as concrete being cut in preparation for disposal) as significant alleviations to the impacts of decommissioning on local communities.

⁹ Scottish Environment Protection Agency, Environment Agency, Natural Resources Wales (2018). Available at: <https://www.sepa.org.uk/media/365893/2018-07-17-grr-publication-v1-0.pdf>

Nuclear decommissioning

Are there any further improvements that we might consider in relation to the proposed update of nuclear decommissioning and clean-up policy? Please provide the reasoning behind your response.	
Total	122
The nuclear decommissioning policy set out above includes existing policy and policies that would be implemented if the proposals in Part I are taken forward. Do you agree that the policy statement captures all relevant policy on nuclear decommissioning?	
Agree	22
Disagree	17
Unknown	43
Total	82
Do you have any suggestions for how this chapter on nuclear decommissioning could be improved? Please provide the reasoning behind your response.	
Total	79

Consultation proposal

The consultation set out proposals for an updated policy on nuclear decommissioning. It clarifies the UK position on sustainable practices, reuse of land, research and development, acceptable decommissioning strategies, and cross-sector collaboration. The policy also makes it clear that any new facility covered by the updated policy, including treatment and storage facilities, should be designed, built and operated to minimise the complexity of subsequent decommissioning and associated waste management operations. Some aspects of policy on decommissioning of nuclear facilities are reserved, however, policy on waste which arises from decommissioning is devolved. In addition, Scottish Ministers are consulted on matters relating to the nuclear sites in Scotland which are the responsibility of the NDA and, in parallel with the UK Government, approve the NDA's strategies and business plans in relation to Scotland.

Summary of responses

Respondents welcomed the update and put forward a number of suggestions for how the decommissioning chapter could be improved, as follows:

A small number of respondents suggested there should be more detail or a greater emphasis on:

- sustainability, environmental and climate considerations in decommissioning strategies and plans;

- the importance of asset management;
- the importance of collaboration with the regulators and between nuclear sites;
- the importance of research and development for nuclear decommissioning;
- community engagement on nuclear decommissioning projects, in particular on the end state and future use of the site;
- the potential for interim uses of sites rather than only focusing on the next use of the site once decommissioning is completed;
- on international engagement and exporting UK expertise in nuclear decommissioning abroad.

A small number of respondents sought clarity on:

- the difference between decommissioning strategies, plans and programmes;
- land use for new nuclear power on and around existing nuclear sites;
- how the policy will work alongside the Funded Decommissioning Programme.

A small number of respondents also suggested:

- the policy should cover all facilities that use radioactive substances not just nuclear facilities and also cover all future fusion facilities rather than just decommissioning of the existing JET facility;
- the policy could be improved by including measures to streamline the sharing of intellectual property owned by the NDA;
- greater levels of environmental protection are required.

Government response

Sustainability and climate change in decommissioning strategies and plans

The UK Government and devolved administrations agree that the decommissioning policy could be improved by explicitly including sustainability, environmental and climate considerations in the section which covers decommissioning strategies and plans. We have added to the final policy socio-economic and environmental sustainability, and climate change, as explicit factors to be taken into account when developing decommissioning strategies.

Asset management

The UK Government and devolved administrations consider asset management to be an important aspect of the decommissioning process. As well as reference to the importance of asset management to decommissioning, we have also now included specific reference to innovations asset management, as well as integration of asset management and waste management.

Collaboration with regulators

The UK Government and devolved administrations agree that good working relationships between regulatory bodies and all nuclear site operators is important for timely and safe decommissioning and have made amendments to the final policy to reflect this suggestion.

Research and development in decommissioning

The nuclear decommissioning policy encourages innovative approaches to decommissioning and clean-up to be pursued, underpinned by research activities at national laboratories and universities. Conducting research and development is also a key factor to be considered in decommissioning strategies required by the policy.

The NDA Group spends approximately £20m annually on research and development to underpin its mission to decommission and clean-up the UK's earliest nuclear sites. The UK Government and devolved administrations set out their expectation in the policy that the NDA should continue to invest in research and development to address the challenges of radioactive waste management.

Community engagement on site end states and future use

A few respondents asked for greater community engagement on aspects of nuclear decommissioning projects, particularly on the determination of the end state and future use of nuclear sites. In addition, a small number of respondents suggested that the decommissioning and clean-up policy could be improved by including legal guarantees that communities will be engaged.

As set out in our policy, the UK Government and devolved administrations expect operators to create Decommissioning Plans unique to each nuclear site. The policy makes clear that we expect these plans to consider the potential next use of the site including the beneficial reuse of sites sooner rather than later, taking into account local factors and the wishes of the local community. The NDA's Strategy also recognises that end states have the potential to affect the local community and local authority development plans, for example, in terms of employment and skills retention, and as a result they will continue to work closely with local communities and authorities across all the sites they are responsible for.

The UK Government and devolved administrations do not propose to introduce any further legal guarantees. Operators are already required to consult local authorities and local communities under planning and environmental regulation.

We already know some UK facilities and sites present significant, complex and first-of-a-kind decommissioning challenges. As collective understanding of these challenges evolves, the NDA may wish to consider a broader suite of options for site end-states. Any such proposals from the NDA would be subject to public consultation.

Interim use of sites

The UK Government and devolved administrations agree that beneficial interim uses of sites should be considered where a period of deferral forms part of the overall decommissioning plan for a site and we have amended the policy accordingly.

International collaboration

A small number of respondents suggested that the policy should cover the export of UK expertise in nuclear decommissioning abroad.

The UK Government and devolved administrations recognise that the nuclear decommissioning market is growing globally. The NDA will continue to use its experience and relationships to enhance the reputation of the UK nuclear industry. It will showcase the skills and technologies in the UK-based supply chain, supporting them to access international markets. Where appropriate, NDA-owned information and know how will be provided to support these activities.

Land use for new nuclear power plants on or around existing nuclear sites

A small number of respondents asked for more clarity on whether publicly owned land on and around nuclear decommissioning sites would be used for new nuclear power as part of the UK Government's ambition to build 24GW of new nuclear power by 2050.

Decommissioning of some nuclear sites will take many decades, and what is considered an optimised end state may change over time. Therefore, the policy does not make any attempt to specify what the future use of specific sites should be. It does however recognise the value of publicly owned land as a potential site for future national infrastructure. The UK Government consulted on its approach for a revised national policy statement for new nuclear power in England and Wales, including siting, in January 2024.

Decommissioning non-nuclear facilities including fusion

A small number of respondents suggested that, since the decommissioning policy covers the JET fusion facility, it should be extended to cover all future fusion facilities. In addition, a small number of respondents suggested that the decommissioning policy chapter should contain policy statements on the decommissioning of all facilities which use radioactive substances.

In 2021, the UK Government consulted on the future of fusion policy and regulation in 'Towards fusion energy: proposals for a regulatory framework'¹⁰. In its response to that consultation the UK Government concluded that the existing regulatory framework for fusion is sufficient to uphold safety standards in a proportionate way for any future fusion facilities. It is the UK government's view that due to the emerging nature of the fusion sector, it is too early to develop a fusion decommissioning policy, however, the government will continue to consider the case for this as the fusion sector continues to build evidence and the technology matures.

¹⁰ UK Government (2021). Available at: <https://www.gov.uk/government/consultations/towards-fusion-energy-proposals-for-a-regulatory-framework>

The JET facility will be the first fusion facility to be decommissioned in the UK, and lessons learned from this will inform any future policy and guidance on the decommissioning of future fusion facilities.

The UK Government and devolved administrations do not consider it proportionate or necessary to develop specific decommissioning policies for all the different non-nuclear sectors that use radioactive substances. There is a vast difference in the scale of the decommissioning task facing the nuclear sector and the sites in other sectors such as hospitals and research facilities which use much smaller amounts of radioactive substances.

Environmental protection and decommissioning

The UK legislative framework covering radiological protection for people and the environment is aligned to the high standards of the International Atomic Energy Agency. These standards are based on recommendations from the International Commission on Radiological Protection – an independent advisory body which draws on scientific expertise from around the world.

Import and export of radioactive substances

Do you think this chapter on the import and export of radioactive substances accurately reflects existing policy, practice and the regulatory framework? Please provide the reasoning behind your response.	
Agree	16
Disagree	13
Unknown	48
Total	77
Do you have any suggestions on how to improve this chapter on the import and export of radioactive substances? Please provide the reasoning behind your response.	
Total	72

Consultation proposal

The consultation set out a draft policy statement which consolidated existing practices and regulation on the import and export of radioactive substances. Policy on the import and export of radioactive materials and waste is reserved, however, its implementation is devolved.

Summary of responses

The majority of respondents thought the policy statements accurately reflected existing regulation and practices. Further clarity was sought by:

- some respondents on what happens when a substance is imported as a material but is later declared a waste;
- a few respondents who noted there have been instances where the import/export regulatory framework in Scotland and England has been interpreted differently in relation to whether certain objects are considered as radioactive material or radioactive waste.
- a few respondents on whether the policy statement applies to all radioactive waste or only solid waste.

The following concerns were raised by some respondents who did not support the policy statement:

- any waste produced must not be exported or imported but should be dealt with in the country of origin;
- other countries' waste should not be imported into the UK as it is already a challenge to deal with the UK's waste.

Government response

The substance of the policy remains as drafted in the consultation. It aims to ensure that the UK has access to radioactive materials that are not produced or manufactured in the UK, but which are necessary for UK industry, research and healthcare. The policy also aims to enable UK waste producers to access the most efficient and appropriate methods of radioactive waste management (e.g. where quantities are too small for national solutions to be cost effective or sustainable).

We have made a number of small drafting changes and additions to the final policy statement to clarify the points made above and the roles of the respective regulators. The regulators will make their own decisions on proposals they may receive to import or export radioactive substances where a shipment ends or starts in their jurisdiction. When proposals involve one or more parts of the UK, for example waste is imported in one part followed by subsequent treatment and disposal operations taking place in another part, the respective regulators will cooperate to realise the aims of the policy.

The policy statement has also been amended to clarify that it covers all types of radioactive waste.

The UK Government intends to develop guidance to set out how this policy should be applied by the regulators.

Managing nuclear materials and spent fuel

Do you agree with our proposed updates to the policy statement on the management of spent fuel? Please provide the reasoning behind your response.	
Agree	43
Disagree	41
Unknown	38
Total	122
Do you agree with our proposed policy statement on the management of uranium? Please provide the reasoning behind your response.	
Agree	38
Disagree	34
Unknown	47
Total	119
Do you agree that the policy covers everything you would expect it to regarding managing spent fuel and uranium? We are not currently seeking views on plutonium management policy.	
Agree	17
Disagree	32
Unknown	31
Total	80
Do you have any suggestions for how the policy statements on managing spent fuel and uranium could be improved? Please provide the reasoning behind your response.	
Total	78

Consultation proposal

The consultation set out a consolidated and updated policy framework covering policies on managing spent fuel, uranium and plutonium. This included proposals for an updated policy on spent fuel management to reflect recent changes and a new policy statement on the management of uranium. No changes were proposed to the existing policy on plutonium and views on the plutonium policy were not sought in the consultation. Policy relating to the management of nuclear materials is a reserved matter.

Summary of responses

The majority of the substantive responses were supportive. Those who supported the proposal did so for the following reasons:

- respondents welcomed the clarity that the consolidated and updated policy provided on the UK Government's expectations for the management of nuclear materials and spent fuel;
- respondents thought the policy was suitably pragmatic and welcomed the flexibility and balance that the policy provides.

A number of respondents raised the following issues and concerns:

- a few thought there should be a firmer policy favouring re-use of spent fuel and nuclear materials and a closed fuel cycle;
- others wanted to see a firmer policy against re-use of spent fuel and nuclear materials;
- a small number suggested that reprocessing should be a state endeavour, rather than the decision of whether to reprocess being left to the owner of the spent fuel or the market;
- some were concerned that reprocessing would increase discharges to the environment, increase the dose to workers and generate difficult to manage secondary waste;
- a small number raised concerns that reprocessing is incompatible with the UK's non-proliferation objectives;
- a small number suggested there should be more detail on interim storage and disposal options for spent fuel;
- a few suggested that disposal of spent fuel should be enforced within a certain timeframe;
- a few respondents raised concerns about re-use of uranium for military purposes;
- a few respondents sought clarity on the government's policy on thorium.

Government response

Managing spent fuel, nuclear materials and reprocessing

The UK Government intends to maintain the policy position on managing spent fuel and nuclear materials as set out in the consultation.

Due to the long-time frames associated with spent fuel management and the related uncertainties, along with the diverse nature of the inventory in the UK, a flexible approach to allow for different management options is required. Decisions on the management of spent fuel should continue to rest with the owner of the spent fuel subject to meeting all the necessary

regulatory requirements. It would not be appropriate for the UK Government to enforce disposal of spent fuel within a certain timeframe.

There is currently no industrial scale reprocessing in the UK. The UK Government has not received any credible proposals from industry to restart reprocessing and has no plans to pursue, or provide financial support for, industrial scale reprocessing of spent nuclear fuel.

The final policy makes clear that in the absence of proposals from industry, owners of spent fuel should proceed on the basis that spent fuel will not be reprocessed and waste management plans, including financing, should reflect this.

Should any proposals come forward in the future they will be considered on their merits at the time and the Government would expect to consult on them. This would include consideration to the environmental impact, the dose to workers, waste management plans and the UK's security, safeguards and non-proliferation objectives. Any proposals for future reprocessing would need to be in line with regulatory and policy requirements for the management of all nuclear materials and radioactive waste streams, including discharges to the environment.

In line with the policy to maintain a flexible approach to allow for different management options, the UK Government has not included additional detail in the policy on interim storage or disposal options. Proposals for interim storage of spent fuel, including in centralised storage facilities, would be considered on their merits at the time and would be subject to all the relevant approvals..

A number of minor drafting amendments have been made to the final policy to make the position on reprocessing and managing spent fuel clearer.

Re-use of uranium for military purposes

Any re-use of civil uranium for military purposes would be subject to safety and security regulations.

Thorium

It is the UK Government's view that due to the small amount of thorium, relative to the amount of uranium and spent fuel in the UK inventory, a separate policy on thorium management is not required at this time. This position will be kept under review.

Plutonium

We have removed the section on plutonium management from the final policy as it is subject to a separate programme as set out by the NDA in 2019¹¹. Further updates will be provided as work progresses.

¹¹ NDA (2019). Progress on plutonium consolidation, storage and disposition. Available at: <https://www.gov.uk/government/publications/progress-on-plutonium-consolidation-storage-and-disposition>

Issues raised beyond the scope of the consultation proposals

A number of respondents raised points that are outside the scope of the consultation. These include comments on:

- new nuclear power projects;
- the continued creation of radioactive waste;
- the UK Government's policy to dispose of the most hazardous radioactive waste in a GDF;
- a GDF constructed under the Irish Sea;
- disposing of radioactive waste in the sea;
- the suitability of the geology in Cumberland and off the coast of Cumberland for geological disposal;
- the seismic investigations that took place off the coast of Cumberland as part of the GDF programme;
- measures to streamline the sharing of intellectual property owned by the NDA;
- clarity on how the Scottish Government plans to deal with higher activity radioactive waste not suitable for near surface disposal.

New nuclear power projects

The UK and Welsh Governments see an important role for new nuclear power facilities, including advanced modular nuclear reactors and small modular nuclear reactors, in helping us reach net zero carbon emissions by 2050 and to increase our energy security. The Energy Security Strategy¹² sets out an ambition to increase plans for deployment of nuclear power of up to 24 GW. The UK Government reiterated this ambition in Powering up Britain¹³. The UK and Welsh Governments are committed to developing new nuclear projects.

The Scottish Government has adopted a net zero emissions target by 2045. Its focus in relation to power generation is on promoting renewable electricity generation such as wind and solar and maintains a policy of no new nuclear generation under current technologies. The Northern Ireland Assembly, through passing the Climate Change Act (Northern Ireland) 2022, has adopted a net zero emissions target by 2050. The Act also includes a target of ensuring

¹² British Energy Strategy. Available at: <https://www.gov.uk/government/publications/british-energy-security-strategy>

¹³ Powering up Britain. Available at: <https://www.gov.uk/government/publications/powering-up-britain>

that 80% of electricity consumed in Northern Ireland comes from renewable sources by 2030. Northern Ireland does not have any nuclear power stations.

Banning the creation of radioactive waste

A few respondents suggested that there should be a ban on the creation of any more radioactive waste. Radioactive materials have many beneficial uses - in the health care sector, in safety systems such as smoke detectors, in industry and to generate electricity. Their use, of course, creates radioactive waste. A ban on the creation of radioactive waste would deprive society of materials that are used to treat and diagnose serious illness, keep people safe, deliver research and development in industrial process and create low carbon electricity. The UK Government and devolved administrations would not countenance such a move, although the revised policy framework includes requirements to minimise the creation of radioactive waste through the application of the waste hierarchy.

Geological disposal

Disposal of the UK's most hazardous radioactive waste in a GDF is a long-established policy of the UK Government and the devolved administrations of Wales and Northern Ireland. It is internationally recognised as the safest available long-term option for managing the most hazardous radioactive waste and is being pursued in a number of countries including, France, Sweden, Finland, Canada and Switzerland.

A GDF isolates and contains the waste deep underground through the use of multiple barriers to protect people and the environment from harm. It can be built in suitable geological formations deep underneath the ground on land or deep below the seabed with access facilities on land. A GDF will not be built in a given location unless NWS, the developer for the GDF, can demonstrate to the relevant environmental regulator and the Office for Nuclear Regulation that it will be safe for people and the environment. A GDF will be a highly engineered facility whether it is built underground on land or deep below the seabed. The UK Government and devolved administrations are not proposing to dispose of solid radioactive waste directly into the sea as some respondents have suggested. Sea disposal has long been prohibited by international conventions.

A small number of respondents suggested that the geology in Cumberland and off the coast of Cumberland is complex and is already proven to be unsuitable for geological disposal. The geology now being considered off the coast is different from that investigated by previous programmes. No decision has been made on the location of a GDF.

A few respondents expressed concern about the seismic investigations that took place off the coast of Cumberland last year. Points made included:

- allegations of negative impacts on marine life including deaths as a result of the seismic studies;
- the intrusive nature of investigations which some respondents referred to as 'seismic blasting';

- there was no public or council vote on whether the seismic studies should take place.

The UK Government would like to take this opportunity to set the record straight on the seismic investigations. There was no 'blasting'. The marine geophysical surveys involve creating a sound from a source below the water surface, which is towed behind a vessel. This is commonly done using an air source to create bubbles underwater, which then collapse to produce the sound. The echoes that reflect back from the different layers deep underground are collected using receivers that are trailed behind the boat as streamers.

Relevant permissions for the survey were obtained from the Marine Management Organisation (MMO). To protect the marine environment NWS undertook marine environmental assessments to assess any potential impacts. Throughout the survey, there were no safety or environmental incidents caused by NWS activities and all wildlife sightings were reported back to the MMO in line with the conditions of the permissions obtained. During the surveys NWS took steps to ensure that no marine animals were in close proximity to the vessel before the sound source was started and guards were used on underwater equipment to protect turtles.

The UK Cetacean Strandings Investigation Programme (CSIP), funded by Defra and the Welsh Government, coordinates the investigation of marine species strandings around the English and Welsh coastline. CSIP were monitoring marine species strandings in Northwest England during the seismic survey period (summer 2022) but did not receive any reports of strandings or deaths attributed to the seismic survey. An analysis of data sent in after the survey concluded that no definitive links could be made between the survey and the incidents described.

Copeland Council (now part of Cumberland Council), and the Community Partnerships in the Cumberland area have no role in regulating the geophysical surveys. However, NWS held events at locations across Copeland prior to the surveys to provide an opportunity for local people to ask questions, share their views and understand more about the siting process for a GDF including the Marine Geophysical Surveys. NWS staff took part in those events and discussed the surveys directly with anyone who wanted to engage on the subject.

Intellectual property owned by the NDA

A small number of respondents suggested the policy could be improved by including measures to streamline the sharing of intellectual property owned by the NDA.

The UK Government and devolved administrations do not consider this matter in scope of government policy on decommissioning and suggest that these respondents engage directly with the NDA via the Nuclear Waste and Decommissioning Research Forum (NWDRF). The NWDRF is a cross industry group that aims to enhance coordination of research and development and technical programmes across UK site restoration and integrated waste management activities. Its membership includes representatives from across the NDA Group, regulators and organisations with significant nuclear decommissioning liabilities. One of the aims of the NWDRF is to share established good practice and the development of new technology for the delivery of integrated waste management and site restoration in the nuclear industry.

Higher activity radioactive waste in Scotland

The Scottish Government has its own separate policy regarding higher activity radioactive waste in Scotland, published in 2011, which was included in the draft framework as a reference point, but which is not being consulted upon at this time. The Scottish Government policy is supported by a strategy, published in 2016, which sets out a high level roadmap for the management of higher activity radioactive waste in Scotland, which includes waste that may not be suitable for near surface disposal. The strategy also sets out timescales for when the policy and strategy will be reviewed.

Both documents can be found at the link below:

<https://www.gov.scot/policies/nuclear-energy/radioactive-waste/>

Annex 1: List of respondent organisations

The list of respondents below shows organisations that gave their permission for their identifying information to be published.

Radiation Free Lakeland
K&J
Hopegill Associates
Bridgwater Town Council
The University of Sheffield, Dept. of Materials Science & Engineering, Deep Borehole Disposal Research Group (DBD-RG)
Bradwell Local Community Liaison Council (LCLC)
Abbott Risk Consulting Ltd
Hunterston Site Stakeholder Group
Harwell Site Stakeholders Group
UK Research and Innovation - Science and Technology Facilities Council
Molten Salt Technology Platform
RePlanet UK
Ceredigion Green Party
Friends of the Lake District
Stop Hinkley
UK Atomics
Waste2Glass
United Kingdom Atomic Energy Authority (UKAEA)
National Nuclear Laboratory
Winfrith Site Stakeholder Group
Nuvia

This publication is available from: www.gov.uk/government/consultations/managing-radioactive-substances-and-nuclear-decommissioning

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