



Department for
Business, Energy
& Industrial Strategy

CONSULTATION: National Policy Statement For Geological Disposal Infrastructure

Implementing Geological Disposal

January 2018



CONSULTATION: National Policy Statement For Geological Disposal Infrastructure

Implementing Geological Disposal

The consultation can be found on the BEIS section of GOV.UK:

<https://www.gov.uk/government/consultations/national-policy-statement-for-geological-disposal-infrastructure>

National Policy Statement for Geological Disposal Infrastructure consultation

© Crown copyright 2018

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence.

To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/ or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

Any enquiries regarding this publication should be sent to us at GDFlanduseplanning@beis.gov.uk

Ministerial Foreword

I am pleased to launch this consultation on the draft National Policy Statement (NPS) as part of the work my department is doing to locate a suitable site for a new geological disposal facility for higher activity radioactive waste. Geological disposal involves placing radioactive waste in an engineered facility deep underground, keeping it away from people and the environment. It is acknowledged across the world as the best available option for dealing with radioactive waste on a long-term basis. It is a responsible public service to our future society and will contribute to the Government's Industrial Strategy, which identified the key role the nuclear sector has in increasing productivity and driving clean growth.

In 2014 the Government set out a renewed approach to this task in its 'Implementing Geological Disposal' White Paper, developed following consultation with stakeholders and the public. In it, the Government committed to help interested communities understand more about hosting a geological disposal facility and engaging with confidence in the processes involved.

The Government and its geological disposal facility partner, Radioactive Waste Management, are now working to build this wider public understanding among interested communities. This includes information such as who should represent a host community and how; clarity on how land-use planning decisions will be made; background on the geology of each region of England, Wales and Northern Ireland; data on potential environmental impacts and potential benefits.

Building and operating a geological disposal facility is a multi-billion pound national infrastructure project, which is likely to bring huge benefits to its host community, with skilled jobs for hundreds of people over many decades.

At the same time we are creating a clear route for future planning decisions to be taken by producing a National Policy Statement. This sets out the need for nationally significant infrastructure projects related to the geological disposal of higher activity radioactive waste in England. It also provides planning guidance for promoters of such projects, and for the Planning Inspectorate and Secretary of State in their consideration of applications. In this consultation we are actively looking for views and suggestions on the NPS and related environmental and sustainability appraisal documents to enable us to meet these objectives in the most effective and efficient way.

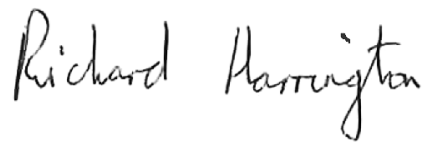
In the 2014 White Paper we emphasised the important role that communities will play in this process and the Government's commitment to working in partnership with interested communities.

In parallel with this consultation, we are also seeking views on a draft framework for working in partnership with a willing community (<https://www.gov.uk/government/consultations/working-with-communities-implementing->

[geological-disposal](#)) to gain a better understanding of whether people feel the proposed process will work in practice, and will use the feedback provided to finalise the policy.

The working with communities proposals gives local communities an opportunity to decide whether or not they wish to proceed with the development of a geological disposal facility. All the usual opportunities for the public to have a say in the process through planning, safety, security and environmental permitting processes will also be in place.

We look forward to hearing your views and comments on both of these consultations as an important part of our continuing engagement over the next few years. By this means we hope to build greater public understanding of all these issues and to work together towards delivery of this national infrastructure project in a highly supportive local host community.

A handwritten signature in black ink that reads "Richard Harrington". The signature is written in a cursive style with a large initial 'R' and 'H'.

Richard Harrington MP

Parliamentary Under Secretary of State

Contents

Ministerial Foreword	2
General information	6
Purpose of this consultation	6
How to respond	6
Confidentiality and data protection	7
Quality assurance	7
1. Executive Summary	9
2. Context for the consultation	12
Government Policy on Management of Higher Activity Radioactive Waste	12
Waste to be managed	14
What is geological disposal?	14
What will a geological disposal facility look like?	16
Land-use planning	16
3. Draft NPS and consultation	20
The Draft NPS for Geological Disposal Infrastructure	20
Chapter 1 - Introduction	20
Chapter 2 - Government Policy on Management of Higher Activity Radioactive Waste	20
Chapter 3 - The need for geological disposal infrastructure	21
Chapter 4 - Assessment Principles	21
Chapter 5 - Impacts	22
4. Appraisal of Sustainability and Habitats Regulations Assessment	24
Appraisal of Sustainability	24
Habitats Regulations Assessment	25
5. Catalogue of consultation questions	27
The Government would welcome responses to the following questions:	27
Draft National Policy Statement	27
Consultation Questions	27
Appraisal of Sustainability; Habitats Regulations Assessment	28
Consultation Questions	28

All Documents	28
Consultation Question	28
Glossary	29

General information

Purpose of this consultation

The purpose of this consultation is to gather views on the draft National Policy Statement for Geological Disposal Infrastructure. National Policy Statements, which are defined under the Planning Act 2008, set out the need for particular nationally significant infrastructure projects. If necessary, the draft will be revised to take account of consultation responses and recommendations from Parliamentary scrutiny, prior to finalisation/approval ('designation') of the National Policy Statement. Further details about nationally significant infrastructure projects and National Policy Statements are given in Section 2.

Issued: 25 January 2018

Respond by: 19 April 2018

Enquiries to:

Geological Disposal Facilities Team
Department for Business, Energy & Industrial Strategy,
Civil Nuclear and Resilience Directorate,
3rd floor, 1 Victoria Street,
London, SW1H 0ET
Tel: 020 7215 5000
Email: GDFlanduseplanning@beis.gov.uk

Consultation reference: Consultation: National Policy Statement for Geological Disposal Infrastructure

Territorial extent:

This National Policy Statement provides the framework for decision making on development consent applications for the construction of geological disposal infrastructure in England, and beneath the seabed in waters adjacent to England up to the seaward limits of the territorial sea. However, the associated Appraisal of Sustainability and Habitats Regulations Assessment, which inform this National Policy Statement, consider the potential socio-economic and environmental impacts of geological disposal infrastructure (located in England) on Wales and Scotland, given their common borders with England. Although the National Policy Statement only covers England, responses to this consultation are welcomed from throughout the UK.

How to respond

When responding, please state whether you are responding as an individual or representing the views of an organisation. If you are responding on behalf of an organisation, please make it clear who the organisation represents and, where applicable, how you assembled the views of members.

When considering responses to this consultation, the Government will give greater weight to responses that are based on argument and evidence, rather than simple expressions of support or opposition.

Where possible, responses should be submitted electronically via the e-consultation available at Citizen Space <https://www.gov.uk/government/consultations/national-policy-statement-for-geological-disposal-infrastructure>.

Hardcopy responses sent to the postal address above or emailed to GDFlanduseplanning@beis.gov.uk will also be accepted.

Additional copies:

You may make copies of this document without seeking permission.

Other versions of the document such as Braille or large print are available on request. Please contact us using the details under 'enquiries' above to request alternative versions.

Confidentiality and data protection

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information legislation (primarily the Freedom of Information Act 2000, the Data Protection Act 1998 and the Environmental Information Regulations 2004).

If you want information that you provide to be treated as confidential please say so clearly in writing when you send your response to the consultation. It would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded by us as a confidentiality request.

Responses to this consultation, including names, will be made public and may be used in Parliament as evidence in the Parliamentary scrutiny process, and may be published under the authority of Parliament, unless respondents specifically request confidentiality.

We will summarise all responses and place this summary on the [GOV.UK website](#). This summary will include a list of names of organisations that responded but not people's personal names, addresses or other contact details.

Quality assurance

This consultation has been carried out in accordance with the [Government's Consultation Principles](#).

General information

If you have any complaints about the consultation process (as opposed to comments about the issues which are the subject of the consultation) please address them to enquiries@beis.gov.uk

1. Executive Summary

Overview

- 1.1. There is a need for a permanent disposal solution for higher activity radioactive waste from a wide range of activities, including: waste from 60 years of nuclear generation and waste from new nuclear power stations; as well as waste from medical treatments, research, and defence activities. The government policy for geological disposal of this waste is based on an independent review by the Committee on Radioactive Waste Management (CoRWM) and is described in Section 2.
- 1.2. The 2014 White Paper 'Implementing Geological Disposal' sets out the UK Government's framework for managing higher activity radioactive waste in the long term through geological disposal.
- 1.3. Geological disposal infrastructure (i.e. a geological disposal facility (GDF) and deep investigative boreholes) is now classed as a nationally significant infrastructure project (NSIP): a major infrastructure development of a type and scale defined in the Planning Act 2008.
- 1.4. The National Policy Statement (NPS) will guide developers when preparing, and the Planning Inspectorate and the Secretary of State¹ when considering, applications for development consent relating to geological disposal infrastructure.
- 1.5. This consultation seeks views on the accompanying non-site specific draft NPS. The NPS focuses on the high level assessment principles against which development consent applications will be considered for any geological disposal infrastructure in England, and territorial waters adjacent to England.
- 1.6. This consultation also seeks views on the accompanying Appraisal of Sustainability Report and Habitats Regulations Assessment Report, which are supporting environmental appraisals to the draft NPS. The Appraisal of Sustainability assesses the potential socio-economic and environmental impacts of the draft NPS; the Habitats Regulations Assessment is an assessment of whether there are any 'likely significant effects' on any 'European site' (e.g. special areas of conservation). Further details are given in Section 4.

Aims of this consultation

- 1.7. The Planning Act 2008 requires NPSs to undergo a period of public consultation before they are published.
- 1.8. The Government is seeking views on whether the draft NPS provides an appropriate and effective framework for the Planning Inspectorate and the Secretary of State to examine and make decisions on development consent applications for geological disposal infrastructure in England.

¹ When the Secretary of State is referred to in this document it means the Secretary of State for Business, Energy and Industrial Strategy.

- 1.9. This consultation document describes the context for the consultation and provides an outline of the draft NPS and the associated Appraisal of Sustainability and Habitats Regulations Assessment Reports. For more detailed information, and when responding to consultation questions, respondents should refer to these separate documents.
- 1.10. Consultation questions are listed throughout Section 3 and Section 4 of this document and are also listed, along with an additional consultation question, in a complete list of consultation questions in Section 5.
- 1.11. A list of terms and their definitions, relating to land-use planning and radioactive waste, are given in the glossary at the end of this consultation document.

2014 White Paper

- 1.12. The White Paper² sets out a number of initial actions to be undertaken by the UK Government and by the developer of geological disposal infrastructure to help implement geological disposal. This was in order to provide clear, evidence based information on both technical issues (such as geological suitability) and how the process of working with communities during the siting process would work in practice.
- 1.13. These initial actions included:
 - an upfront process of national geological screening (led by the developer);
 - developing the process of working with communities (led by the UK Government, and assisted by a Community Representation Working Group);
 - land use planning - bringing geological disposal facilities in England, including the deep investigative boreholes that support their development, within the definition of nationally significant infrastructure projects in the Planning Act 2008, and developing a NPS to support the development consent process (led by the UK Government).
- 1.14. The development of the draft NPS concerns the initial action related to land-use planning decisions. The NPS, once designated, will support the planning process, providing the framework within which decisions on whether or not to grant development consent for geological disposal infrastructure will be taken. The developer will also need to obtain separate licences and permits from the nuclear regulators.
- 1.15. The Government is running a parallel consultation on the policy for Working with Communities, and welcomes comment on that document, found here <https://www.gov.uk/government/consultations/working-with-communities-implementing-geological-disposal>. The Working with Communities consultation sets out UK Government's proposed policy on how communities should be engaged and represented in a siting process for a geological disposal facility. It includes how communities will have a say before the delivery body (RWM) applies for development consent for a geological disposal facility in their area, and other permissions to proceed from the environmental and nuclear safety and security regulators.

Parliamentary scrutiny and next steps following public consultation

- 1.16. The draft NPS will be subject to Parliamentary scrutiny prior to being approved ('designated') as is required for all NPSs in accordance with the Planning Act 2008. The

² Implementing Geological Disposal, DECC White Paper, 2014, available online at: <http://bit.ly/1rF6xQn>

Parliamentary scrutiny is expected to last around 30 weeks and will begin on the date of publication of this public consultation.

- 1.17. It will be laid in Parliament and be subject to scrutiny by the relevant House of Commons Select Committee, which will produce a report and recommendations based on outputs from the public consultation and evidence sessions. The Secretary of State will lay a response to these recommendations in Parliament.
- 1.18. There may also be Parliamentary debate and a vote in either or both Houses of Parliament on the NPS, if the Select Committee makes a recommendation to this effect. If Parliament approves the NPS then the Secretary of State can then proceed to 'designate' the NPS after 21 parliamentary sitting days; if Parliament does not approve the NPS, the Secretary of State will need to reflect on the reasons given and establish whether the NPS needs amending.
- 1.19. The Government then plans to finalise the NPS and Appraisal of Sustainability / Habitats Regulations Assessment Reports and publish a 'post adoption statement' setting out how the outcome of the public consultation has been taken into account in the final document.

2. Context for the consultation

Government Policy on Management of Higher Activity Radioactive Waste

- 2.1. In July 2006, the Committee on Radioactive Waste Management made recommendations for the long-term management of higher activity radioactive waste³ having independently reviewed all of the available options. They recommended geological disposal, coupled with safe and secure interim storage while disposal facilities are developed, as the best available option. The Committee on Radioactive Waste Management also recommended that engagement with communities is essential. In 2013, they reiterated their recommendation from 2006 supporting a geological disposal facility, and that there should be a willing community to host it.
- 2.2. The UK Government remains committed to the policy of geological disposal of higher activity radioactive waste, for the reasons set out in the Committee on Radioactive Waste Management's 2006 Recommendations to Government, and subsequent UK Government policy documents (described below) on radioactive waste management.

Table 1. A brief summary of geological disposal facility policy

Date	Overview of policy decision
2001	The Managing Radioactive Waste Safely (MRWS) programme was initiated by UK Government and devolved administrations ⁴ . This aimed to find a practical long-term management solution for the UK's higher activity radioactive waste.
2003 – 2006	The Committee on Radioactive Waste Management considered a range of options for long-term radioactive waste management. The options ranged from indefinite storage on or below the surface, to propelling the waste into space. In 2006 they recommended that geological disposal, coupled with safe and secure interim storage, was the best available approach. This work involved extensive consultation with the public and expert groups.
2006	The UK Government and devolved administrations published a response broadly accepting the Committee on Radioactive Waste Management's recommendations ⁵ . This led to a consultation in 2007 by the UK Government, the Welsh Government and Northern Ireland Executive on a framework to

³ 'Managing our Radioactive Waste Safely – CoRWM's Recommendations to Government', July 2006, available online at: <http://bit.ly/15R4QpL>

⁴ Managing Radioactive Waste Safely: Proposals for Developing a Policy for Managing Solid Radioactive Waste in the UK, September 2001, available online at: <http://bit.ly/15Rum8m>

⁵ The Government response to the 2007 consultation, available online at: <http://webarchive.nationalarchives.gov.uk/20121015000000/http://nuclearpower2007.direct.gov.uk/docs/AnalysisDocument.pdf>

	implement geological disposal.
2008	<p>The 2008 White Paper ‘Managing Radioactive Waste Safely – A Framework for Implementing Geological Disposal’ was published⁶. This set out a framework, adopted by the UK Government and the Northern Ireland Executive, to implement a geological disposal facility, including a voluntarist approach to identifying a suitable site, based on a local communities’ willingness to participate in the process. In the 2008 White Paper the Welsh Government reserved its position on the policy of geological disposal, neither supporting it nor against it.</p> <p>A further consultation led to the UK Government publishing the Nuclear White Paper⁷ which included its position on the use of geological disposal to dispose of higher activity radioactive waste generated as a result of new nuclear power stations.</p>
2008 – 2013	<p>The 2008 White Paper approach to siting operated for five years. By February 2013 there were no more active communities involved in the siting process. The Committee on Radioactive Waste Management issued a statement reiterating its recommendation that geological disposal was the best available approach for the long-term management of radioactive waste⁸.</p>
2013	<p>UK Government considered what lessons could be learned from applying the process set out in the 2008 White Paper. A call for evidence was undertaken to support this review, allowing a wide range of stakeholders to input. The UK Government and Northern Ireland Executive then issued a consultation on proposals to amend aspects of the siting process that could be revised or improved to help engage communities. The Department of Energy and Climate Change (DECC) held engagement events to support this consultation.</p>
2014	<p>A formal Government response to the consultation⁹ was published alongside a new White Paper ‘Implementing Geological Disposal’ (which was published jointly with Northern Ireland). The 2014 White Paper, Implementing Geological Disposal, updates and replaces the earlier 2008 White Paper and sets out the overarching policy framework for implementing geological disposal. This includes the initial actions led by the UK Government and the developer to support a siting process that is based on the willingness of communities to participate.</p>

⁶ ‘Managing Radioactive Waste Safely – A Framework for Implementing Geological Disposal’ can be found at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228903/7386.pdf

⁷ A White Paper on nuclear power: Meeting the Energy Challenge, BERR, 2008, pg.99. <http://bit.ly/1q7U3Qa>

⁸ CoRWM Statement on Geological Disposal, CoRWM, 2013, available online at: <http://bit.ly/1mCaHXv>

⁹ The Government response to the consultation, available online at: <http://bit.ly/1fCtrlQ>

- 2.3. The Nuclear Decommissioning Authority (NDA) and Radioactive Waste Management (RWM) continue to review other long-term management options. At present, no credible alternatives have emerged that would accommodate all of the anticipated categories of waste in the inventory for disposal. In any realistic future scenario, some form of geological disposal facility will remain necessary^{10,11}.

Waste to be managed

- 2.4. The waste that will be disposed of in a geological disposal facility is referred to as the 'inventory for disposal'. The specific types of higher activity radioactive waste (and nuclear materials that could be declared as waste) which would comprise the inventory for disposal in a geological disposal facility are:
- high level waste (HLW) arising from the reprocessing of spent nuclear fuel;
 - intermediate level waste (ILW) arising from existing nuclear licensed sites, and medical, industrial, research, educational and defence activities;
 - the small proportion of low level waste (LLW) that is not suitable for disposal in the national Low Level Waste Repository¹².
 - spent fuel from existing commercial reactors (yet to be declared waste) and research reactors that is not reprocessed;
 - spent fuel (yet to be declared waste) and intermediate level waste from new nuclear power stations;
 - plutonium stocks – in a form suitable for long-term disposal (this may be following re-use and subsequently contained in spent nuclear fuel, immobilised, or a combination of both);
 - uranium stocks - including that arising from enrichment and fuel fabrication activities (yet to be declared waste);
 - irradiated fuel and nuclear materials (yet to be declared waste) from the UK defence programme.
- 2.5. The volumes of this waste and material are regularly assessed, revised and made publicly available by Radioactive Waste Management every three years, as the 'Inventory for Geological Disposal'¹³. This is based upon the UK Radioactive Waste Inventory, which is published by the Nuclear Decommissioning Authority¹⁴.

What is geological disposal?

- 2.6. The UK has accumulated radioactive waste from a range of activities including nuclear power generation, medicine, research and defence-related nuclear programmes. Most

¹⁰ 'Geological Disposal – Review of Alternative Radioactive Waste Management Options' RWM, available online:

<https://rwm.nda.gov.uk/publication/geological-disposal-review-of-alternative-radioactive-waste-management-options/>

¹¹ Nuclear Decommissioning Authority Strategy, available online: <https://www.gov.uk/government/publications/nda-strategy>

¹² National Low Level Waste Repository is situated near the coast of Cumbria: <http://llwrsite.com/>

¹³ <https://rwm.nda.gov.uk/publication/geological-disposal-2013-derived-inventory/>

¹⁴ <https://ukinventory.nda.gov.uk/>

of the waste can be disposed of safely in facilities on the surface but a suitable facility is still needed for the remaining higher activity radioactive waste, some of which will remain hazardous for hundreds of thousands of years. Building a geological disposal facility will also support a new generation of nuclear power stations in the UK, by providing a safe way to dispose of the waste they produce.

- 2.7. Geological disposal involves placing waste deep underground and containing it within multiple barriers, to ensure that the hazardous materials are isolated from the surface environment and contained for the time required for the radioactivity associated with them to naturally reduce. This ensures that no harmful quantities of radioactivity ever reach the surface environment.
- 2.8. The multiple barriers that provide safety for geological disposal are a combination of:
- the form of the radioactive waste itself;
 - the packaging of the waste, typically metal or concrete containers;
 - buffer or backfill materials placed immediately around the waste containers to protect them;
 - engineered features of the facility such as filled and sealed tunnels or vaults;
 - the stable geological environment at depth in which the facility is sited.
- 2.9. This is referred to as a multi-barrier system. The details of the barriers are tailored to the type of waste and the geological environment. Some examples are given in Figure 1.

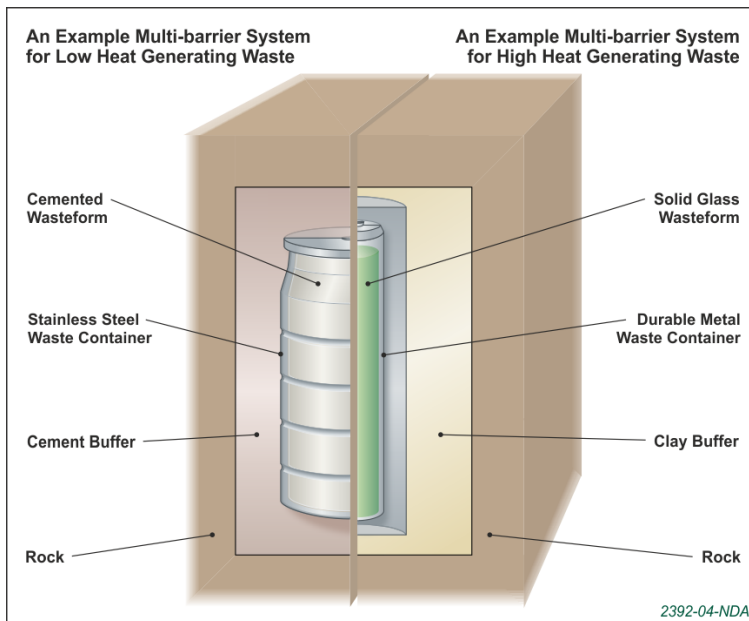


Figure 1. Example multi-barrier systems

- 2.10. Geological disposal is internationally recognised as the safest and most secure means of permanently managing our higher activity waste, with countries such as Finland, Sweden, France, Canada and the USA also pursuing this option.

What will a geological disposal facility look like?

- 2.11. A geological disposal facility will have both surface and underground facilities, linked by shafts or inclined tunnels, as illustrated in Figure 2. The surface facilities will comprise a number of buildings for waste receipt and transfer, infrastructure for the underground environment and administration and other support buildings. In total, the buildings above ground will cover an area of approximately 1 square kilometre with the details of the layout and appearance being dependent on the features of the particular location.
- 2.12. The underground facilities will comprise a system of vaults and engineered tunnels for the disposal of waste. A geological disposal facility will be located at a depth of between 200 and 1000 metres underground and will cover an area of approximately 10 to 20 square kilometres.

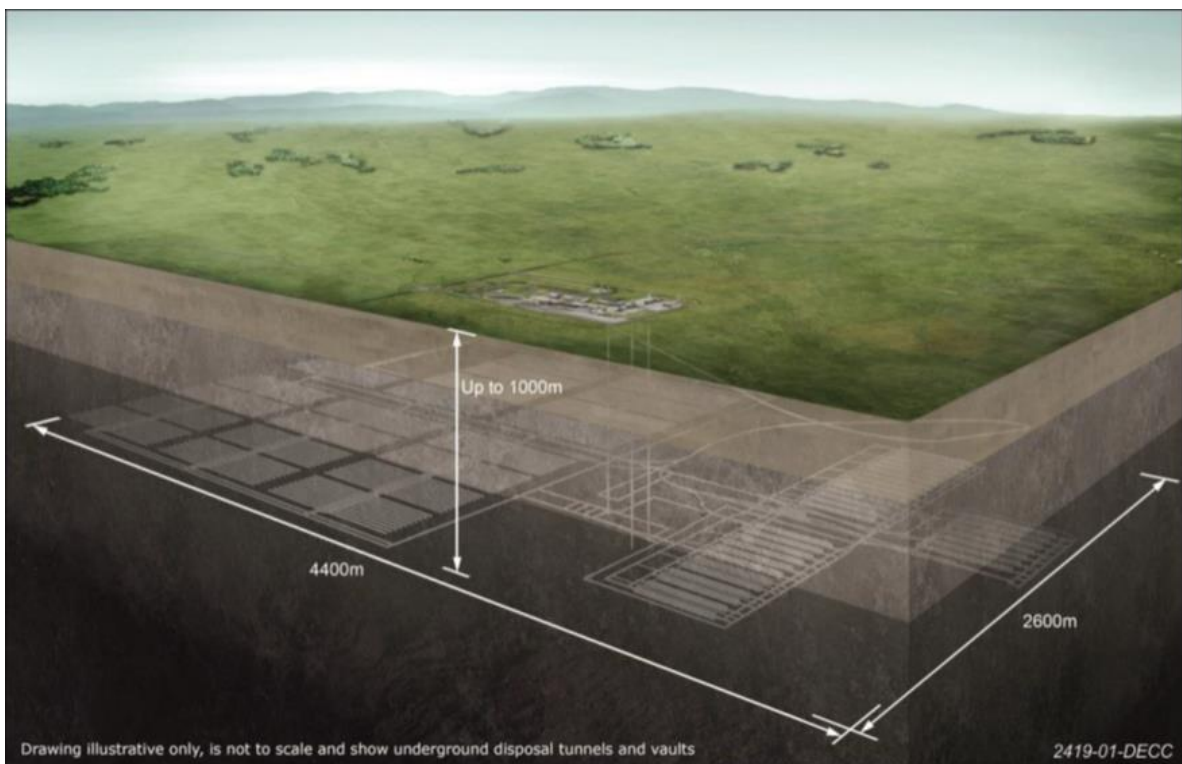


Figure 2. Illustrative drawing of a geological disposal facility – above and below ground

Land-use planning

What are nationally significant infrastructure projects (NSIPs)?

- 2.13. Nationally significant infrastructure projects are major infrastructure developments of a type and scale defined under the Planning Act 2008 relating to energy, transport, water, waste water and waste disposal.
- 2.14. The 2014 White Paper set out the UK Government's position that a geological disposal facility for the disposal of higher activity radioactive waste is infrastructure of national significance, and that the approach to land-use planning should reflect this. It confirmed the Government's intention to amend the Planning Act 2008 to bring both a geological disposal facility, and the deep investigative boreholes necessary to assess and characterise the suitability of potential sites, within the definition of nationally significant infrastructure projects. This was completed in March 2015.

What is a National Policy Statement (NPS)?

- 2.15. NPSs set out the need for major infrastructure. Introduced as part of the Planning Act 2008, they set out the policies against which applications for development consent will be considered and set out how the impact of any proposed infrastructure will be assessed and mitigated.
- 2.16. NPSs set out the criteria by which development consent applications for nationally significant infrastructure projects are determined. They include the Government's objectives for the development of nationally significant infrastructure projects in a particular sector and set out:
- how this will contribute to sustainable development;
 - how these objectives have been integrated with other Government policies;
 - how actual and projected capacity and demand have been taken into account;
 - relevant issues in relation to safety or technology;
 - circumstances where it would be particularly important to address the adverse impacts of development;
 - specific locations for the infrastructure, where appropriate, in order to provide a clear framework for investment and planning decisions;
 - how the policy set out in the statement takes account of Government policy relating to the mitigation of, and adaptation to, climate change.
- 2.17. They also include any other policies or circumstances that Ministers consider should be taken into account in decisions on infrastructure development.
- 2.18. NPSs provide a framework within which the Planning Inspectorate makes its recommendation to the Secretary of State on development consent applications. In making decisions on such applications, the Secretary of State must also have regard to any local impact report submitted by a local authority, and any other matters which the Secretary of State considers are both important and relevant to any decision.
- 2.19. Under the Planning Act 2008, the Secretary of State must decide a development consent application for geological disposal infrastructure in accordance with the NPS, unless to do so would:
- lead to the UK being in breach of its international obligations;
 - be unlawful;
 - lead to the Secretary of State being in breach of any duty imposed by or under any legislation;
 - result in adverse impacts of the development outweighing its benefits;
 - be contrary to legislation about how the decisions are to be taken.
- 2.20. NPSs also provide an opportunity for democratic accountability in their drafting and development. Draft NPSs must be publicly consulted on in addition to facing Parliamentary scrutiny before they are approved and designated.

The Development Consent Process

- 2.21. Under the Planning Act 2008, a developer wishing to construct a nationally significant infrastructure project must make a development consent application to the Secretary of State.
- 2.22. A developer will require development consent under this process for a geological disposal facility as well as for the drilling of deep boreholes to characterise and to assess potential sites. As part of this process, the developer will need to assess the impacts resulting from the proposed development, using the NPS as a framework.
- 2.23. For such projects, the Secretary of State will appoint an ‘Examining Authority’ to examine the application in accordance with the NPS. The Examining Authority will be arranged by the Planning Inspectorate, and will be either a single Inspector or a panel of between two and five Inspectors. Once the examination has been concluded, the Examining Authority will make a recommendation to the Secretary of State, who will make the decision on whether to grant or to refuse consent.
- 2.24. The process for applying for development consent to assess, using deep investigative boreholes, or develop a site (or sites) for a geological disposal facility is distinct from the separate process of identifying a potential site (or sites).
- 2.25. The six key stages in the development consent application process for nationally significant infrastructure projects are shown in Figure 3.

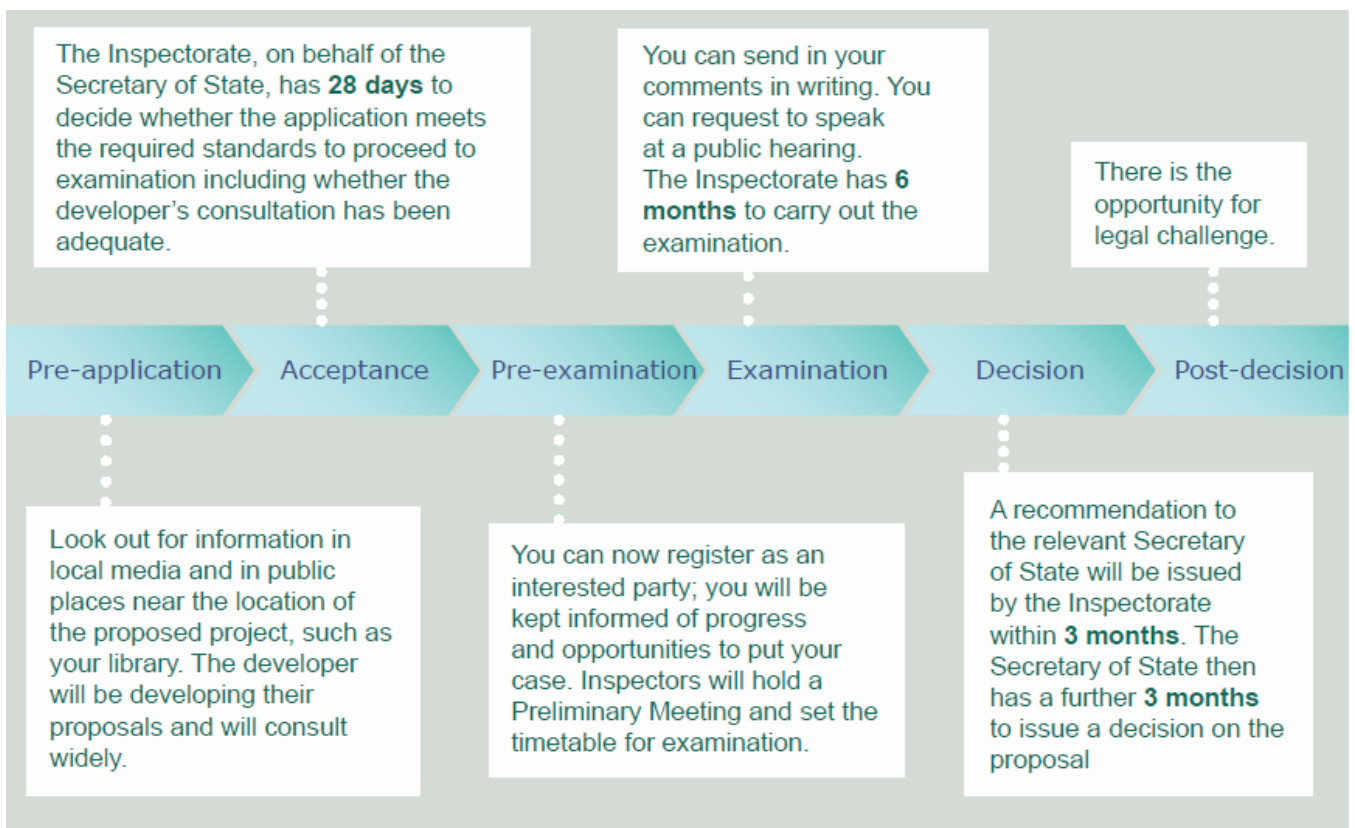


Figure 3. The Development Consent Process for Nationally significant infrastructure projects¹⁵

¹⁵ The Planning Inspectorate (2016): <http://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2013/04/Advice-note-8-1v4.pdf>

Devolved administrations

Wales

2.26. Radioactive waste disposal is a devolved matter as is land-use planning. Any planning decisions for a geological disposal infrastructure in Wales would be taken through the planning system in Wales. If circumstances were to arise requiring planning consideration of geological disposal infrastructure in Wales, the Welsh Government would ensure that appropriate planning and environmental assessment mechanisms were put in place, and consulted upon, to enable any decisions to be taken in an open and transparent way.

Northern Ireland

2.27. As the geological disposal facility is an infrastructure development on a major scale, and of national significance, all planning issues in Northern Ireland would be considered by the relevant department within the Northern Ireland Administration.

Scotland

2.28. Scottish Government policy is that the long-term management of higher activity radioactive waste should be in near-surface facilities. Facilities should be located as near to the sites where the waste is produced as possible. While the Scottish Government does not support deep geological disposal, it continues, along with the UK Government and other devolved administrations, to support a robust programme of interim storage and an on-going programme of research and development.

3. Draft NPS and consultation

The Draft NPS for Geological Disposal Infrastructure

3.1. The draft NPS comprises five chapters, as follows:

- **Chapter 1:** provides an overview of the purpose and scope of the NPS including the draft NPS objectives;
- **Chapter 2:** sets out the government policy on the management of higher activity radioactive waste, including an outline of what geological disposal is, the waste to be managed and the strategy for implementation;
- **Chapter 3:** outlines the need for geological disposal infrastructure;
- **Chapter 4:** sets out the assessment principles against which applications relating to geological disposal infrastructure are to be decided;
- **Chapter 5:** sets out the generic impacts to be considered by the developer and the Examining Authority.

3.2. A brief summary of each chapter is provided below and includes consultation questions where relevant to the associated chapter. Respondents should refer to the draft NPS and associated documents as well as this summary when seeking to respond to consultation questions.

Chapter 1 - Introduction

- 3.3. Chapter 1 provides an overview of the purpose and scope of the draft NPS including the draft NPS objectives.
- 3.4. It begins by setting out the purpose of the NPS and then explains the infrastructure covered by the NPS, the NPS's geographical coverage, and summarises how development consent applications for a geological disposal facility and associated deep boreholes will be considered. The chapter goes on to provide an overview of the Appraisal of Sustainability and Habitats Regulations Assessment.

Chapter 2 - Government Policy on Management of Higher Activity Radioactive Waste

- 3.5. Chapter 2 of the draft NPS sets out the government's policy on the management of higher activity radioactive waste, including an outline of geological disposal, the waste to be managed and the policy for implementation.

Chapter 3 - The need for geological disposal infrastructure

- 3.6. Chapter 3 of the draft NPS sets out the need to manage higher activity radioactive waste in the long term through the development of a geological disposal facility. The Secretary of State will assess applications for infrastructure covered by the NPS on the basis that need has been demonstrated.
- 3.7. This chapter also explains the UK Government's policy framework for managing higher activity radioactive waste in the long term, specifically how geological disposal policy has been developed, consulted on and put into effect, prior to the development of the draft NPS.
- 3.8. The drivers, for a long-term solution to the management of radioactive waste, identified in Chapter 3 include the legacy waste from over 60 years of nuclear generation. This and other legacy waste is currently stored temporarily at over 30 sites in the UK.
- 3.9. Chapter 3 also sets out the international consensus on a geological disposal facility being the safest and most secure means of disposing of higher activity radioactive waste.

Consultation Question

- | | |
|----|---|
| 1. | Does the draft NPS provide suitable direction to the Planning Inspectorate and Secretary of State on the need for geological disposal infrastructure? |
|----|---|

Chapter 4 - Assessment Principles

- 3.10. Chapter 4 of the draft NPS sets out certain general principles in accordance with which development consent applications relating to geological disposal infrastructure are to be decided.
- 3.11. The scale of nationally significant infrastructure projects gives rise to the possibility of significant impacts on the environment, the economy and communities. It is therefore important for the applicant when assessing these impacts, and the Secretary of State when considering the application, to have a clear set of principles against which the application should be judged. Chapter 4 sets out assessment criteria for these principles, which relate to design, the environment, health, safety and security.
- 3.12. Chapter 4 also states that in considering any proposed development, the Examining Authority and the Secretary of State (as decision maker) should take into account:
 - its potential benefits, including its contribution to meeting the need for geological disposal infrastructure, job creation and any long-term or wider benefits; and
 - its potential adverse impacts, including any longer-term and cumulative adverse impacts¹⁶, as well as any measures to avoid, reduce or compensate for any adverse impacts.

¹⁶ This covers the operational period of the facility (or boreholes) up to and including closure.

3.13. Chapter 4 also refers to regulatory requirements associated with planning such as the Infrastructure Planning Environmental Impact Assessment (EIA) Regulations and the Habitats Regulations. It also outlines the permitting, licensing and consenting requirements of (amongst others), the Environmental Permitting Regulations 2016, the Nuclear Installations Act 1965 and the Planning Act 2008. Nuclear safety, security and post-closure environmental protection are all regulated by the Office for Nuclear Regulation (ONR) and the Environment Agency (EA); these specific issues are outside conventional land-use planning considerations.

Consultation Question

- | | |
|----|--|
| 2. | Do the assessment criteria adequately address the principles that the developer, the Planning Inspectorate and the Secretary of State should take into account in an application for development consent? If not, what further information on the assessment criteria is required? |
|----|--|

Chapter 5 - Impacts

3.14. Chapter 5 of the draft NPS sets out the generic impacts to be considered by an applicant and the Examining Authority. Guidance is provided across the following topics:

- Air quality
- Noise
- Biodiversity and nature conservation
- Climatic factors including climate change and adaptation
- Cultural heritage including architectural and archaeological heritage
- Socio-economics, population and demographics
- Flood risk and coastal change
- Human health
- Landscape and visual impacts
- Land use
- Traffic and transport
- Waste management
- Water quality

3.15. For each impact, guidance is provided for the following three areas:

- the matters to be considered and presented by the applicant in an Environmental Statement to meet the requirements of the Infrastructure Planning Environmental Impact Assessment Regulations;
- decision making by the Secretary of State;
- the proposed mitigation measures to be considered by the applicant.

3.16. In his decision-making the Secretary of State should balance the national need for geological disposal infrastructure (described in Chapter 3) against the impacts of the development (described in Chapter 5) of the NPS.

Consultation Question

3.	Does the draft NPS appropriately cover the impacts of geological disposal infrastructure and potential options to mitigate those impacts? Please provide reasons to support your answer.
----	--

4. Appraisal of Sustainability and Habitats Regulations Assessment

Appraisal of Sustainability

- 4.1. The Planning Act 2008 requires that an Appraisal of Sustainability must be carried out before a NPS can be designated. The main purpose of this appraisal is to ensure that the likely environmental and socio-economic effects of the NPS, at a national level, are identified, described and evaluated. If potential significant adverse effects are identified, the Appraisal of Sustainability recommends options for avoiding or mitigating such effects. In this way, it helps to inform the preparation of the NPS and to support the NPS's contribution to the achievement of sustainable development.
- 4.2. The Appraisal of Sustainability incorporates an assessment which satisfies the requirements of the Strategic Environmental Assessment (SEA) Directive¹⁷ and the domestic implementing regulations (the SEA Regulations)¹⁸. The Strategic Environmental Assessment Directive aims for a high level of environmental protection and to promote sustainable development. It applies to certain plans that are likely to have significant effects on the environment. The Appraisal of Sustainability also considers socio-economic effects in the same way as environmental effects are required to be assessed by the Strategic Environmental Assessment Directive.
- 4.3. Amec Foster Wheeler has undertaken the Appraisal of Sustainability on behalf of the Department for Business, Energy and Industrial Strategy (BEIS) by appraising the likely sustainability effects of implementing the draft NPS in delivering the Government's policy of geological disposal for higher activity radioactive waste, with a particular focus on:
- the proposed NPS objectives set out in section 1.10 of the draft NPS;
 - the proposed assessment principles and guidance on impacts and general siting considerations contained within chapters 4 and 5 of the draft NPS;
 - two reasonable alternatives to the draft NPS:
 - **a non-site specific NPS that includes exclusionary criteria**: such criteria may be included on the grounds of landscape, cultural and natural heritage and nature conservation (e.g. exclude geological disposal facility development in areas such as National Parks);
 - **no NPS**: an option which is based on existing national planning policy to guide the development of any future geological disposal infrastructure for higher activity radioactive waste in England.
- 4.4. Overall, the draft NPS has been assessed as having long-term, permanent positive effects across all of the Appraisal of Sustainability objectives. No negative effects
-

¹⁷ Directive 2001/42/EC. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0042&from=EN>

¹⁸ The Environmental Assessment of Plans and Programmes Regulations 2004/1633. http://www.legislation.gov.uk/ukxi/2004/1633/pdfs/ukxi_20041633_en.pdf

(significant or minor) have been identified, although there is the potential for positive effects associated with the implementation of the draft NPS to be enhanced.

- 4.5. At a later stage in the process the developer will be required to undertake assessment of the environmental effects of specific sites of proposed development.
- 4.6. Respondents should refer to the Appraisal of Sustainability Report, including the Non-technical Summary, when seeking to respond to the consultation questions below.

Consultation Question

- | | |
|----|--|
| 4. | Chapter 5 - Do you agree with the findings (of 'likely significant effects') from the Appraisal of Sustainability Report and the recommendations for enhancing the positive effects of the draft NPS? Please provide reasons to support your answer. |
|----|--|

Consultation Question

- | | |
|----|--|
| 5. | Chapter 6 - Do you agree with the conclusions of the Appraisal of Sustainability Report? If not, please explain why. |
|----|--|

Habitats Regulations Assessment

- 4.7. The NPS is also subject to the EU Habitats Directive and the relevant domestic implementing regulations (the Habitats Regulations)¹⁹. These require an assessment of whether there are likely to be any 'significant effects' on any European site (sites protected because of their importance to European nature conservation) as a result of the implementation of the NPS (either on its own or in combination with other plans or projects) and, if so, whether these effects will result in any adverse impacts on that site's integrity.
- 4.8. Amec Foster Wheeler has undertaken this assessment on behalf of the Department for Business, Energy and Industrial Strategy (BEIS) in accordance with the requirements of the Habitats Regulations. The Habitats Regulations Assessment considers the effects of the NPS on European sites and identifies and assesses alternative solutions to remove or compensate for those effects.
- 4.9. The appropriate assessment has determined that any European site in England (as well as some sites in Scotland or Wales) is, in theory, potentially vulnerable to adverse effects as a result of the development of geological disposal infrastructure. Consequently, regulation 107 of the Habitats Regulations requires an assessment of alternative solutions to determine whether there are any other feasible ways to deliver the overall objective of the plan (i.e. delivery of a geological disposal facility) which will be less damaging to the integrity of the European site(s) affected. Three principal alternative approaches for the NPS have been considered:

¹⁹ In particular Article 6(3) of the Habitats Directive (Directive 92/43/EEC) and regulations 105 and 107 of the Conservation of Habitats and Species Regulations 2017. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN> and https://www.legislation.gov.uk/uksi/2017/1012/pdfs/uksi_20171012_en.pdf

- no NPS;
- an NPS that is generic but includes criteria (for example, criteria based on excluding areas of specific environmental concern);
- a location-specific NPS that identifies candidate sites for the geological disposal facility.

4.10. These alternative approaches have been assessed, and it has been concluded that they are either not feasible at this stage; or would not provide any additional certainty that adverse effects on European sites can be avoided or reduced, compared to the current NPS. In these circumstances, the Habitats Regulations allow a plan (such as the NPS) to take effect for imperative reasons of overriding public interest (IROPI). These reasons must relate to human health, public safety, and beneficial consequences of primary importance for the environment or (following an opinion from the European Commission) other imperative reasons of overriding public interest.

4.11. In the Habitats Regulations Assessment Report, the Government has relied on the public interest test, imperative reasons of overriding public interest, as the non-site specific nature of the NPS makes it impossible to fully rule out adverse effects on European conservation sites; under 'imperative reasons of overriding public interest' the test is satisfied as the geological disposal facility is of major importance to human health, public safety and the environment. However, at a later stage in the process, there will be a project level Habitats Regulations assessment at particular sites that will allow impacts on any protected sites to be properly assessed.

4.12. Respondents should refer to the Habitats Regulations Assessment Report, including the Executive Summary, when seeking to respond to the consultation question below.

Consultation Question

- | | |
|----|--|
| 6. | Do you agree with the findings from the Habitats Regulations Assessment Report for the draft NPS? Please provide reasons to support your answer. |
|----|--|

5. Catalogue of consultation questions

The Government would welcome responses to the following questions:

Draft National Policy Statement

Consultation Questions

- | | |
|----|---|
| 1. | Chapter 3 - Does the draft NPS provide suitable direction to the Planning Inspectorate and Secretary of State on the need for geological disposal infrastructure? |
|----|---|

Consultation Question

- | | |
|----|--|
| 2. | Chapter 4 - Do the assessment criteria adequately address the principles that the developer, the Planning Inspectorate and the Secretary of State should take into account in an application for development consent? If not, what further information on the assessment criteria is required? |
|----|--|

Consultation Question

- | | |
|----|--|
| 3. | Chapter 5 - Does the draft NPS appropriately cover the impacts of geological disposal infrastructure and potential options to mitigate those impacts? Please provide reasons to support your answer. |
|----|--|
-

Appraisal of Sustainability; Habitats Regulations Assessment

Consultation Questions

- | | |
|----|--|
| 4. | Chapter 5 - Do you agree with the findings (of 'likely significant effects') from the Appraisal of Sustainability Report and the recommendations for enhancing the positive effects of the draft NPS? Please provide reasons to support your answer. |
|----|--|

Consultation Question

- | | |
|----|--|
| 5. | Chapter 6 - Do you agree with the conclusions of the Appraisal of Sustainability Report? If not, please explain why. |
|----|--|

Consultation Question

- | | |
|----|--|
| 6. | Do you agree with the findings from the Habitats Regulations Assessment Report for the draft NPS? Please provide reasons to support your answer. |
|----|--|

All Documents

Consultation Question

- | | |
|---|--|
| 7 | Do you have any other comments on the draft NPS and the accompanying documents (Appraisal of Sustainability, Habitats Regulations Assessment)? |
|---|--|

Glossary

Definition of terms

Appraisal of Sustainability

An appraisal of the sustainability of the policy set out in a National Policy Statement, as required by section 5(3) of the Planning Act 2008.

Barrier

A physical or chemical means of preventing or inhibiting the movement of radionuclides.

Borehole

A borehole is the generalised term for any cylindrical excavation into the ground made by a drilling device for purposes such as site investigation, testing and monitoring. Borehole investigations are necessary to characterise and assess potential sites and will be an integral part of the process for developing a geological disposal facility.

Committee on Radioactive Waste Management (CoRWM)

The Committee on Radioactive Waste Management provide independent scrutiny and advice to the Government and devolved administrations on the long-term management of higher activity radioactive wastes. They are an advisory non-departmental public body, sponsored by the Department for Business, Energy and Industrial Strategy (BEIS).

Devolved administrations

Collective term for the Scottish Government, Welsh Assembly Government and in Northern Ireland, the Department of the Environment.

Disposal

In the context of solid waste, disposal is the emplacement of waste in a suitable facility without intent to retrieve it at a later date. Retrieval may be possible but, if intended, the appropriate term is storage.

Environment Agency

The environmental regulator for England. The Agency's role is the enforcement of specified laws and regulations aimed at protecting the environment, in the context of sustainable development, predominantly by authorising and controlling radioactive discharges and waste disposal to air, water and land. The Environment Agency also regulates nuclear sites under the Environmental Permitting Regulations and issues consents for non-radioactive discharges.

Environmental Impact Assessment (EIA)

A legal requirement under EU Directive 2011/92/EU (as amended) for certain types of project, including various categories of radioactive waste management project. It requires information on the environmental impacts of a project proposal to be submitted by the developer and evaluated by the relevant competent authority.

Environmental permit

Permission granted by the environmental regulator in England to allow an operator to carry out certain activities, subject to conditions and limits on discharges to the environment.

Environmental Permitting (England and Wales) Regulations 2016 (EPR2016)

These regulations provide a consolidated system of permitting regimes for waste facilities in England and Wales including the disposal of radioactive waste.

European sites

This includes designated European conservation areas that include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas, and is defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017.

Geological disposal

A long-term management option involving the emplacement of radioactive waste in an engineered underground geological disposal facility or repository, where the geology (rock structure) provides a barrier against the escape of radioactivity and there is no intention to retrieve the waste once the facility is closed.

Geological disposal facility (GDF)

A geological disposal facility is a highly-engineered facility capable of isolating radioactive waste within multiple protective barriers, deep underground, to ensure that no harmful quantities of radioactivity ever reach the surface environment. The development of a geological disposal facility will be a major infrastructure project of national significance. It will provide a permanent solution for the UK's existing higher activity radioactive waste (including anticipated waste from new nuclear power stations).

Geological disposal infrastructure

Geological disposal infrastructure includes:

- any deep geological facility for disposing of the waste - geological disposal facilities. A geological disposal facility is expected to be constructed at a depth of at least 200 metres beneath the surface of the ground or seabed:
- the deep investigatory boreholes necessary to characterise the geology at a particular site to enable its suitability as a site for a geological disposal facility to be considered. The boreholes are expected to be constructed to a depth of at least 150 metres beneath the surface of the ground or seabed.

Habitats Regulations Assessment

A report to support the Secretary of State in making planning decisions in compliance with the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations).

High level waste (HLW)

Radioactive wastes that generate heat as a result of its radioactivity, so this factor has to be taken into account in the design of storage or disposal facilities.

Higher activity radioactive waste (HAW)

Includes the following categories of radioactive waste: high level waste, intermediate level waste, a small fraction of low level waste with a concentration of specific radionuclides sufficient to prevent its disposal as low level waste.

Intermediate level waste (ILW)

Radioactive wastes exceeding the upper activity boundaries for low level waste but which does not generate heat that needs to be taken into account in the design of storage or disposal facilities.

Legacy waste

Radioactive waste which already exists or will be produced in the future by the operation of an existing nuclear power plant.

Low level waste (LLW)

Radioactive waste not exceeding specified levels of radioactivity. Overall, the major components of low level waste are building rubble, soil and steel items from the dismantling and demolition of nuclear reactors and other nuclear facilities and the clean-up of nuclear sites.

National Policy Statement

A statement that provides guidance to the Planning Inspectorate and Secretary of State on assessing and making a decision on development consent applications for a particular type of infrastructure.

Nationally significant infrastructure project (NSIP)

A project of a type and scale in England defined under the Planning Act 2008 and by order of the Secretary of State relating to energy, transport, water, waste water and waste generally.

Nuclear Decommissioning Authority (NDA)

A non-departmental public body created through the Energy Act 2004. The Nuclear Decommissioning Authority is a strategic authority that owns 19 UK sites and the associated civil nuclear liabilities and assets of the public sector. It reports to the Department of Business, Energy and Industrial Strategy (BEIS); for some aspects of its functions in Scotland, it is responsible to Scottish Ministers.

Nuclear Safeguards

Nuclear Safeguards are reporting and verification processes by which states demonstrate to the international community that civil nuclear material is not diverted into military or weapons programmes. Nuclear safeguards measures can include reporting on civil nuclear material holdings and development plans, inspections of nuclear facilities by international inspectors and monitoring, including cameras in selected facilities.

Office for Nuclear Regulation (ONR)

The Office for Nuclear Regulation independently regulates nuclear safety and security at 36 nuclear licensed sites in Great Britain. It also regulates the transport of radioactive materials and plays a key role in ensuring that the UK's safeguards obligations are met. The Office for Nuclear Regulation operates a goal-setting regime setting out its regulatory expectations, and requiring licensees to determine and justify how best to achieve them. The Office for Nuclear Regulation has 36 conditions attached to each nuclear site licence within which the licensees are expected to operate. A combination of the Office for Nuclear Regulation's assessment and

inspection functions allow the Office for Nuclear Regulation to judge whether licensees are meeting their legal obligations.

Operational lifetime

This refers to the period of construction (including pre-construction works) and operation of the facility (or boreholes), up to and including closure.

Planning Act 2008

Planning legislation in England for nationally significant infrastructure projects, under which applications are made to the Planning Inspectorate and then the decision made by the relevant Secretary of State. This is separate to the Town and Country Planning Act 1990, under which planning applications for other forms of development are made to the local authority.

Radioactive waste

Any material contaminated by or incorporating radioactivity above certain thresholds defined in legislation, and for which no further use is envisaged, is known as radioactive waste.

Radioactive Waste Management Limited (RWM)

A wholly owned subsidiary of the Nuclear Decommissioning Authority (NDA), a non-departmental public body. It is responsible for implementing a safe, sustainable, publicly acceptable geological disposal programme

Radioactivity

Atoms undergoing spontaneous random disintegration, usually accompanied by the emission of radiation.

Reprocessing

A physical or chemical separation operation, the purpose of which is to extract uranium or plutonium for re-use from spent fuel.

Site licence

A nuclear site licence is a legal document granted by the Office for Nuclear Regulation. It contains site-specific information and defines the number and type of installations permitted. It controls the safety and security levels that must be maintained on site.

Spent fuel

Nuclear fuel removed from a reactor following irradiation that is no longer usable in its present form because of depletion of fissile material, poison build-up or radiation damage.

Storage

The emplacement of waste in a suitable facility with the intent to retrieve it at a later date.

Strategic Environmental Assessment (SEA)

An iterative process for gathering information and evidence, assessing effects, developing mitigation and enhancement measures and making recommendations to refine a plan or programme in view of its predicted environmental effects. It is a statutory requirement for certain plans and programmes under the Strategic Environmental Assessment Directive (Directive 2001/42/EC) and UK Strategic Environmental Assessment Regulations (SI 2004/1633, SI 2004/1656, SR 2004/280).

