



Geological disposal

How we will regulate a geological disposal facility

Much radioactive waste has already been produced as a result of the UK’s nuclear power, research and defence programmes. Nuclear sites and other users of radioactive material such as hospitals and universities continue to produce radioactive waste.

New nuclear power stations will add further to the amount of radioactive waste produced. All this waste needs to be properly managed to protect people now and in the future, which includes ensuring we have a solution for its final, safe disposal.

Geological disposal

UK government has decided that geological disposal is the best available approach for managing higher activity radioactive waste in the long term.

We use the term ‘higher activity radioactive waste’ to refer to radioactive wastes that are unsuitable for disposal in existing near-surface radioactive waste disposal facilities.

Geological disposal means permanently placing radioactive waste in a specially designed facility between 200 metres and 1,000 metres underground.

The design of the facility and its contents, combined with the properties of the surrounding rock, provide multiple barriers that contain the

radioactivity and prevent harmful quantities from reaching the human environment. The depth of the facility protects the waste from effects at the surface, such as future climate change, surface erosion, and human activities.

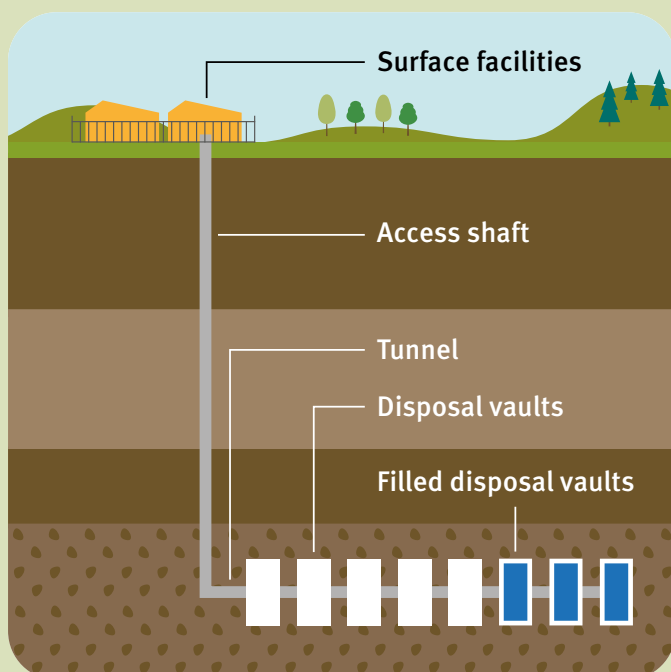
Our view on geological disposal

In our view, geological disposal of long-lived radioactive waste has the potential to provide a safe and sustainable solution.

In the absence of a geological disposal facility, higher activity wastes must be managed in interim facilities that are designed, constructed, operated and maintained to provide safe, secure and environmentally acceptable storage.

We wish to see progress towards implementing geological disposal because continuing storage of wastes at the surface would require ongoing management and intervention lasting many decades, and for some wastes potentially several hundred thousand years.

Operational geological facility



Our regulatory role

We are the environmental regulator for England. We will be responsible for making sure that any geological disposal facility in England meets the required high standards for protecting people and the environment when it is being developed, while it is operating and after it has closed.

The developer will not be allowed to undertake intrusive site investigations, construct or operate a geological disposal facility without an environmental permit.

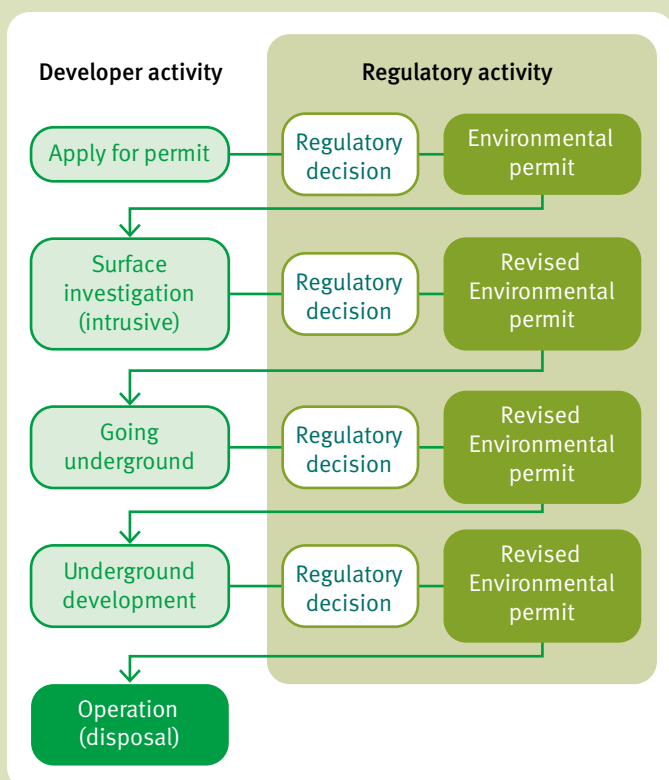
We will regulate the development of any geological disposal facility using a process known as ‘staged regulation’. The diagram shows a simplified outline of how we expect staged regulation to work.

At the outset, the developer will need to obtain an environmental permit from us before starting site investigation work such as drilling boreholes to investigate the geology at a potential site.

Our regulatory approval will be required before the start of each subsequent development stage. Work would not need to stop completely at each of these decision points; a developer may continue to gather information while we make a regulatory decision but work on the next stage would only be allowed to start if we decide to issue a revised environmental permit.

We will not grant an environmental permit to allow disposal operations to start if the facility does not meet our required regulatory standards.

After start of operations, regulatory control will be required for many decades and possibly for more than a hundred years.



Selecting a site

As the environmental regulator in England, we do not have a role in the decision-making process for selecting a site for a geological disposal facility.

During the site selection process, we will work with communities, local authorities and others to increase understanding of our role and regulatory process. We will also provide advice and comment on environmental matters within our regulatory remit.

Working with others

We are working jointly on geological disposal with the Office for Nuclear Regulation which regulates nuclear safety, security, safeguards and transport of radioactive material.

We also work together so that, before a geological disposal facility is available, higher activity radioactive waste is managed safely and sustainably, in a manner compatible with disposal.

We are also actively involved in the UK government’s programme for implementing geological disposal. We provide advice and comment on regulatory issues to the government, the Nuclear Decommissioning Authority, local authorities, communities and the public.

Getting involved

During the site selection process, we will participate in public events and, if these are near you, you can come and speak to us.

You can also contact us by e-mail:
nuclear@environment-agency.gov.uk

Further information

www.gov.uk/guidance/regulating-the-geological-disposal-of-radioactive-waste-environmental-protection

