



## Nuclear waste: Going underground?

Most people have a view on programmes like Britain's Got Talent and Strictly Come Dancing. You also have a say about one of the biggest issues facing people in this area – whether we should consider having an underground repository for higher-activity radioactive waste in West Cumbria.

A repository would affect many generations of people in this area. Would it be good or bad for West Cumbria and other parts of the county?

We (the West Cumbria Managing Radioactive Waste Safely Partnership) have been set up to look at this and to make sure you are involved. This newsletter tells you about some of the issues, how you can find more information and how you can get involved.

There is a lot to think about, including: Could a repository be safe? Would it bring more jobs? Don't leave the decisions to other people.



**Get involved and tell us what you think.**

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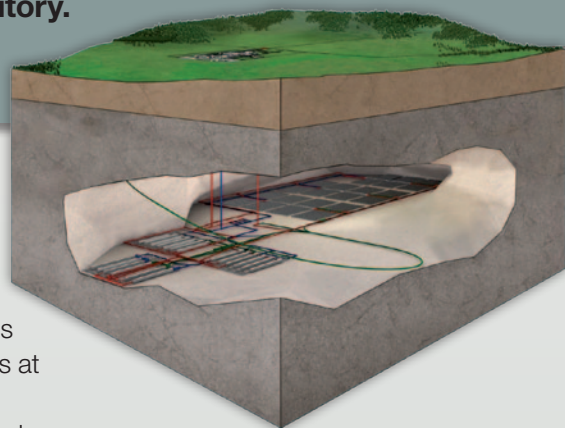
**Is West Cumbria unsuitable for a repository?** p3

**Plus...**

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# Your questions... The Partnership, the councils and the public need to consider a range of issues before there is a decision about whether or not West Cumbria should take part in the Government's search for somewhere to locate a repository.

On this page we look at why geological disposal is being discussed and whether a repository could be safe.



## Why are we looking at an underground repository?

In 2006 an independent committee of experts, the **Committee on Radioactive Waste Management** (CoRWM), recommended that underground disposal was the best available long-term way of managing the waste. The committee had looked at a wide range of options for managing higher-activity radioactive waste over the long-term and looked at evidence in the UK and other countries.

Higher-activity radioactive waste is

currently stored above ground at sites around the UK. A large amount of it is at Sellafield.

CoRWM said underground disposal was safer in the longer term than above-ground storage because of the risk of terrorism and climate change, for example. They also suggested it was fairer for future generations. It would also avoid the need to build new storage buildings every 100 years or so and the need to repackage the waste.

Some people and organisations are not convinced about the long-term safety of underground disposal.

However, CoRWM's integrated set of recommendations received wide ranging support from experts and the public.

It will be for the people in this community to decide whether or not they would be happy for detailed investigations to be carried out to identify a possible site for a geological disposal facility in West Cumbria.

For more information visit [www.corwm.org.uk](http://www.corwm.org.uk)



Sellafield (left) and opponents of geological disposal in Kendal last year (right).

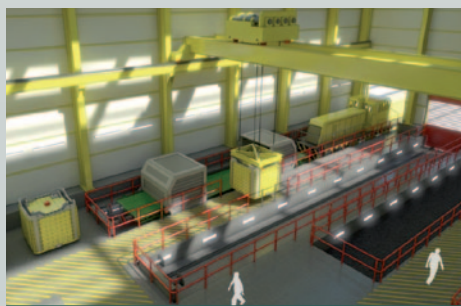
## Can a repository be safe?

### Safety is the overriding issue for all of us.

The Nuclear Decommissioning Authority (NDA), the organisation that would be responsible for underground disposal, says a repository would be designed to use both natural barriers (the geology) and man-made barriers (the waste container, materials placed around it and so on) to make sure no harmful amounts of radioactivity reaches the surface.

People who are against underground disposal say that a repository wouldn't be safe. An organisation called Nuclear Waste Advisory Associates published a report about their concerns in 2010. This is one of the pieces of evidence we

will be looking at and asking the NDA to respond to.\*



NDA diagram (and top) showing what the facilities might look like.

We will only give our advice on whether or not West Cumbria should take part in the search for a site when we feel

we have enough information about safety issues. It will not be possible to have absolute certainty about this, or many other issues, before we make this decision. The NDA can only do specific work on designing a repository if we make a decision to proceed further, as the design will be affected by the geology of the site considered.

However, an area can withdraw from this process up to when the work starts, which will probably be over 10 years away. If a community was not entirely confident at that stage that the repository would be safe it would not agree to have the facility sited there.

\*[www.nuclearwasteadvisory.co.uk](http://www.nuclearwasteadvisory.co.uk)

On this page we ask a geophysicist to say why he believes the area's geology is unsuitable for a repository and the Nuclear Decommissioning Authority to explain why they think it may be worth carrying out more detailed geological tests in parts of West Cumbria.

## ? Is West Cumbria's geology unsuitable?

**P**rof David Smythe (Emeritus Professor of Geophysics, Glasgow University) worked for Nirex when they looked at an area near Sellafield as a possible site for a repository in the 80s and 90s. He was later an objector at the planning inquiry that ended the Nirex process. He says:

Political memories are short. West Cumbria was 'screened' geologically not just in 2010, but also 25 years ago, along with the entire UK.

£400 million was subsequently spent in the Sellafield area, at a site chosen on political and not scientific grounds.

But the 1995-96 Planning Inquiry (a legal court) concluded that scientifically ALL of West Cumbria is unsuitable. The rocks and the underground flow of water are too complex and unpredictable.

So why do this again? Because some local councillors think they can ignore the world's best science evidence, and are 'volunteering' their communities? Because the government thinks it can ignore international guidelines for nuclear waste disposal?

IF deep nuclear waste disposal is indeed to go ahead – Sellafield was only one of several options proposed by an independent investigation – then effort should be concentrated in regions which do have safe potential, such as eastern England.

**A**lun Ellis is the Repository Director at the Nuclear Decommissioning Authority (the NDA), the organisation that would implement geological disposal. He is a Chartered Engineer, a Fellow of the Institute of Mechanical Engineers and a Member of the Institution of Engineering and Technology.

He says:

The Government leads the process to select a site, one that looks for communities to both volunteer to host the repository and work together with Government and the NDA in implementing that decision.

So far West Cumbria is the only community to express an interest in taking part.

The British Geological Survey report showed the areas in West Cumbria that would be unsuitable for a geological disposal facility. However, if the community in West Cumbria were to volunteer then by working



Map showing the geological survey results in 2010

Excluded area in pink



British Geological Survey

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in partnership potential sites in the remaining areas would be identified for detailed evaluation. That would include geological and hydrogeological characteristics and the development of a full safety case which has to be agreed by independent regulators.

All the investigations and information would be scrutinised in detail as part of that process, including earlier work done by Nirex following its investigations of a site near Sellafield. Indeed that information was published in 1997 (after the Public Inquiry) and showed that groundwater flows and flow paths at that location were consistent with the safe disposal of intermediate-level waste.



For more information on the role of the NDA visit [www.nda.gov.uk/aboutus/geological-disposal](http://www.nda.gov.uk/aboutus/geological-disposal)

### The West Cumbrian recipe

Complex site geology

+

High mountains nearby



Fast and unpredictable groundwater flow



Unsafe underground dump

Image provided by Professor Smythe.



Please visit [www.davidsmythe.org](http://www.davidsmythe.org) for more extensive information.



## Question time for Cumbrian students

School students in Cumbria are among those who have been finding out more and asking questions about a possible repository at drop-in events we organised across the county or by using our discussion pack.

Students from **Nelson Tomlinson School** in Wigton (above) took part in a drop-in event in the town last November.

After listening to presentations from the Government and the Partnership, Trent Warmate said:

*"I want to know the impact on tourism, how much land it's going to take, whether or not it's going to be safe and how it's going to impact us."*

Will Middleham also wanted to know:

*"What kind of jobs could be created and what benefits could we get from having a site like that?"*

Maisie Lear thought it was particularly important for young people to get involved:

*"It's going to be us who are going to be making the decisions when we're older so it's better that we learn about it now."*

## ? More of your questions

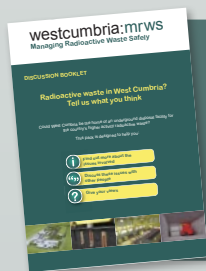


### What benefits might a repository bring to an area?

The Government says a repository would provide additional benefits to any community that 'decided to fulfil such an essential service to the nation'. We are looking at questions such as what these benefits might be, which parts of the community the benefits should go to and how they could be guaranteed into the future.

### What is higher-activity waste?

This is the most radioactive waste. Some of it remains dangerous for thousands of years and some of it produces heat. It is a combination of nuclear materials and other materials, such as fuel packaging and equipment, which has been contaminated with significant amounts of radioactivity.



## It's good to talk

To get our discussion pack and DVD email your name and address to [contact@westcumbriamrws.org.uk](mailto:contact@westcumbriamrws.org.uk) or call **0800 048 8912**. You will need to send your responses to us before 11 February but you can also send us your comments and questions at any time.

## What happens next?

During the spring and summer we will consider your views and the other evidence we've been gathering, for example by speaking to experts and looking at research results.

We will then let you know our initial thoughts on whether the area should take part in the search for somewhere to build a repository – without making any commitment to having one – and we'll also ask you again what you think.

We will then tell Allerdale Borough

Council, Copeland Borough Council and Cumbria County Council what we think, and they will make the final decision.

If we do take part in this process there would be studies looking in more detail at geology, as well as social, environmental and other factors to identify possible sites. We would be able to withdraw from the process right up to the point where building work would start, which is probably more than 10 years from now.



All the answers to this quiz are in the newsletter, so you can find out more about this important issue and have the chance to win a great prize.

1. Which school did students at the Wigton drop-in event come from?
2. In which year did CoRWM recommend underground disposal?
3. What do the initials NDA stand for?

Email your answers to [quiz@westcumbriamrws.org.uk](mailto:quiz@westcumbriamrws.org.uk) or post your answers to:

Freepost RSKT-LTXU-HAYC  
West Cumbria MRWS Partnership  
Copeland Borough Council  
The Copeland Centre  
Catherine Street  
Whitehaven CA28 7SJ

We will draw the winner on 25 March, from entries with three correct answers. You can find full terms and conditions at: [www.westcumbriamrws.org.uk](http://www.westcumbriamrws.org.uk)

## Contact the Partnership



You can find out more by visiting:

[www.westcumbriamrws.org.uk](http://www.westcumbriamrws.org.uk)

You can also contact us by calling our free helpline on:

**0800 048 8912**

or by emailing:

[contact@westcumbriamrws.org.uk](mailto:contact@westcumbriamrws.org.uk)