

# newsletter

# Nuclear waste in our back yard?

Should we consider having a deep underground repository somewhere in West Cumbria, like the one being constructed in Finland (above), to dispose of the nation's higher-activity radioactive waste?

The Government asked communities to consider volunteering to have a facility in their area. Allerdale Borough Council, Copeland Borough Council and Cumbria County Council expressed an interest in learning more about the process on behalf of West Cumbria, without any commitment to have it here.

We are getting closer to the point where we will need to decide whether the area should take part in the search for somewhere to put a repository.

Even if that happens, there would

still be a right to withdraw up to the point where work could start on building a facility, perhaps more than a decade from now.

The role of the West Cumbria Managing Radioactive Waste Safely Partnership is to examine the issues and to involve local people before giving our advice to the councils.

We hope you will find this newsletter helpful. There's also more information on our website – [www.westcumbriamrws.org.uk](http://www.westcumbriamrws.org.uk) – and you can email or phone us for more information or get in touch on Facebook and Twitter.

## Lessons from Japan?



The natural disasters that hit Japan in March severely damaged the nuclear reactors at Fukushima. There isn't an underground repository in Japan but will there still be lessons relevant to a possible geological disposal facility (GDF) here?

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## Lessons from Japan?

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Some people believe that what has happened in Japan shows that no nuclear facility can be operated safely. Others have said that because the waste stored at Fukushima caused part of the problems there, the incident shows why nuclear waste should not continue to be stored above ground - and a large amount of the UK's waste is currently stored above ground at Sellafield

It is important that the Nuclear Decommissioning Authority (NDA) and the regulators learn any lessons from other countries, including what has happened in Japan, as well as addressing other questions about safety. However, the NDA can only do specific work on designing a repository if an area decides to take part in the search for a site, as the design will be affected by the geology of the places considered.

Therefore, at this stage, we can only make a judgement about whether we have enough confidence that the NDA and the regulators have the capability and processes to make sure a repository would be safe. We will let you know our preliminary conclusions about this when we issue a draft report later in the year (see p4).

## What might a repository look like above ground?

If a geological disposal facility was built in West Cumbria there would be some buildings above ground. These facilities could be a number of miles from the underground repository.



Artist's impression showing what the surface facilities might look like.

The Nuclear Decommissioning Authority (NDA) says surface facilities could cover an area of around one square kilometre. Although some parts of West Cumbria have already been ruled out as clearly unsuitable for the underground facilities, at this stage the above ground facilities could be sited anywhere in the area.

There will be a need for buildings to support the construction of the repository, so these facilities will be at their busiest while the repository is being built.

There will also be buildings for the handling of the radioactive waste. This will be used to receive the radioactive material from nuclear facilities around the country - via rail, road or sea - and then it will be transferred into the underground

part of the repository through either a tunnel or a shaft.

The NDA says it is also possible that related developments could be sited at the surface facilities. These might include an interim waste store and waste packaging facility for waste created by any new UK nuclear reactors.

Wherever a repository is located in the UK we would expect that any additional facilities like this could only be built with the agreement of the local community.

## What about earthquakes?

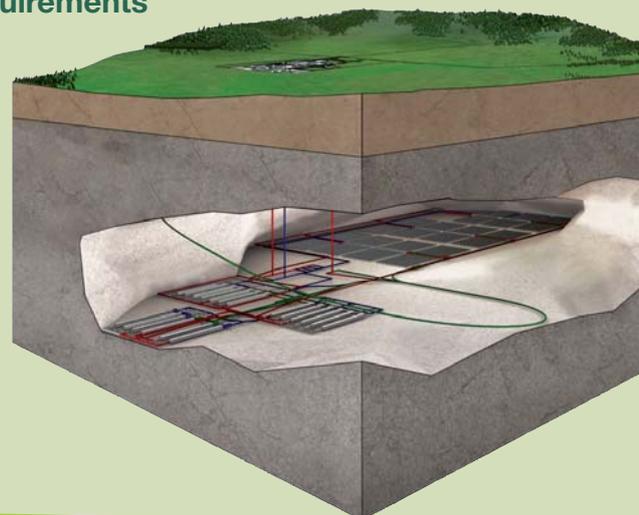
The Government says a repository will not be built in any area that is unsuitable and that it will have to meet the demanding safety case requirements of the independent safety and environmental regulators.

The earthquake in Japan was 65,000 times stronger than the largest earthquake ever reported in the UK and millions of times stronger than the magnitude 3.5 earthquake in South Cumbria last year.

The Government says the vibrations associated with earthquakes experienced in the UK will not significantly affect a repository at depth, but any potential for changes to the rock mass containing a

repository must be thoroughly investigated.

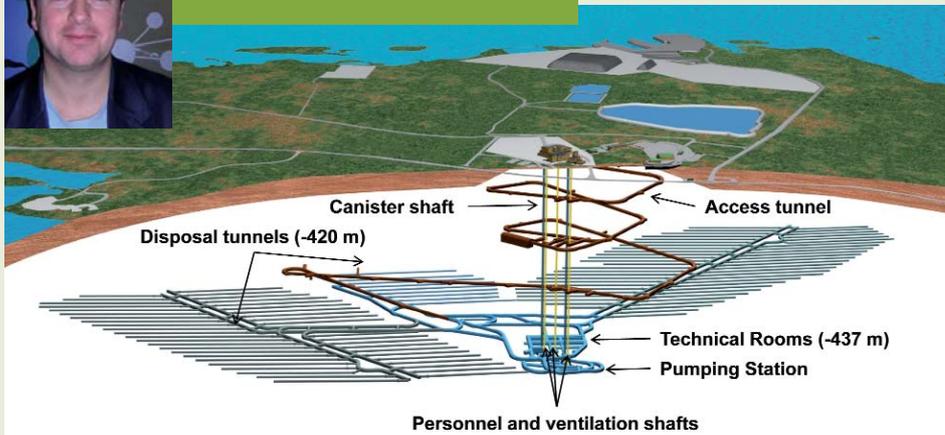
A thorough Seismic Hazard Assessment would be an essential element in the tests to identify a possible site for a repository. If a community was not happy with the answers it was getting when this work was done it would be possible to withdraw from the process.



# 'Practical' Finland leads on nuclear waste



Author: Richard Black, BBC Environment Correspondent



Plans for the Onkalo repository in Finland

## While researching an article on nuclear power recently, I came across an interesting statistic.

For one brief period in the 1960s, the UK had as many operating reactors as the rest of the world put together. It was soon overtaken by bigger countries, but there it is – the UK once was the world leader in nuclear electricity.

When it comes to the tail end of the pipe, however, the country has been anything but a leader. Other nations that you might describe as nuclear “superpowers” – France, Japan, the US, Russia – have all tried to find a final resting place for their high-level waste, and failed.

Instead, the role of global leader falls to countries with reactor fleets smaller than the UK’s – Sweden, with 10 operating reactors, and Finland, with just four.

I have visited the Finnish site at Eurajoki for BBC radio documentaries twice, once in 2006 and again last year.

Above ground, nothing much had changed – an inclined tunnel entrance, with big trucks periodically speeding downwards, empty, or grinding upwards, full of rock.

But the tunnel itself had certainly moved on. On my second visit, it

wound its way to a depth of about 400 metres – and that is about the depth that the first waste will be entombed, in about 10 years’ time, provided the rock proves suitable.

Finland does not reprocess spent fuel rods. Instead, they will be placed inside steel canisters, surrounded with an outer layer of copper, and sealed in with bentonite clay, intended to prevent water corrosion. The system is Swedish-designed, and the Swedish repository at Forsmark will probably be the second in the world to come into operation.

The technology, however, is only part of the story. More interesting is the social side.

The UK (in the eighties and nineties), the US, France... just about every government decided to tackle their waste-piles by first deciding where it should go, and then defending the plan when, inevitably, it was attacked. Manifestly, the approach has not worked anywhere.

The Scandinavians, by contrast, invited communities to come forward. The enthusiastic ones were in places that had hosted nuclear power stations for decades. These communities ended up in something of a bidding contest. The process is not finished yet, in either country – but it appears to be a lot more successful than the “decide, announce and defend” strategy.

In Eurajoki, many of the councillors had worked themselves, or had family members who had worked, at the local Olkiluoto nuclear power station. They told me that they viewed the nuclear industry as a safe provider of secure employment – so much so that they asked to have a new nuclear reactor in their community as part of the reward for accepting the waste.

The other two key words I heard a lot were “trust” and “practical”. It seemed people generally trusted scientists and engineers to tell the truth about the Onkalo repository project; and even opponents of the plan emphasised that as a “practical people”, Finns knew the problem had to be tackled and would not shy away from taking tough decisions.



Whether there is as much trust in the UK’s nuclear industry is perhaps the key question, as the first real decision looms in the process that could lead to a high-level waste repository being sited in West Cumbria.

# What happens next?

During the autumn and winter of 2010 we carried out a wide ranging consultation to raise awareness about what is happening and to hear people's views. A report setting out what people said is available on our website, together with what action we're taking.

Over the next few months, Partnership members will consider all of the information they have received, including comments by the public, and produce a draft report with our advice to the councils.

You will then have a chance to give us your views on the draft report before any decisions are taken.



## You say

Here are some of the things people said at events we held during the winter...

"The geology is not really suitable – build it somewhere where the geology is suitable." **Whitehaven**

"I strongly agree with the proposals, nuclear waste should be stored in a deep repository." **Millom**

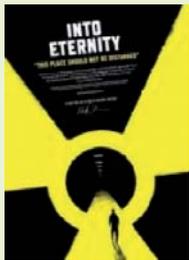
"I think that the jobs that will be created for this will be good, especially for young people." **Wigton**

"I worry about tourism. People from outside the area are scared of the term 'nuclear waste'." **Whitehaven**



Find out more at - [www.westcumbriamrws.org.uk](http://www.westcumbriamrws.org.uk) or contact us by calling our free helpline on **0800 048 912** or by emailing [contact@westcumbriamrws.org.uk](mailto:contact@westcumbriamrws.org.uk) We're also on **Facebook & Twitter**.

To watch our film, including more images showing what a repository might look like, visit our website or read the following QR code (requires a smartphone and QR reader app)



## Into Eternity

Into Eternity is an interesting documentary about the repository which is being constructed in Finland and in particular the ethical issues that are involved. The film can be rented at some larger libraries in Cumbria and is also available to rent or buy on iTunes and Amazon.

## Could there be any benefits?

If we eventually decide a repository would be safe, what benefits could it bring to the area? The Government has talked about benefits to develop 'the social and economic wellbeing of a community' to recognise 'such an essential service to the nation'. Some people see this as a bribe while others think it would be an opportunity for the area.

Our view is that a community benefits package must be in addition to the things that would have to happen if a repository was built e.g. the jobs involved in building and operating a facility and transport improvements.

We have been looking at benefits packages in other countries where nuclear waste facilities have been developed. These have included things like cash payments to the area, lower taxes and additional facilities.

For example, in Sweden £130 million is being given to the communities that volunteered to have the repository (including Forsmark, below).



In South Korea a community got money and a new science park when they agreed to have a low level waste repository. In Spain and Italy benefits are linked to the amount of waste that goes into the facility.

There are more examples in a report for the Partnership by consultants Galson Sciences on the documents section of our website, but these do need to be weighed up against the downsides of having a repository.