

West Cumbria MRWS Partnership Q&As

Questions about the MRWS process in West Cumbria:

1. What is the West Cumbria MRWS Partnership?

The West Cumbria MRWS Partnership includes a wide range of community organisations as well as all the councils in Cumbria. It was set up to look at the issues that are relevant to whether West Cumbria should take part in the search for a site for a repository for higher activity radioactive waste and to ensure local people are involved. The Partnership itself is not taking any decisions. The Decision Making Bodies are Allerdale Borough Council, Copeland Borough Council and Cumbria County Council.

The Partnership has access to funding from the Government to enable these community representatives to meet, commission independent research, and organise public events on behalf of the wider community in West Cumbria.

2. Why should we even consider having a geological disposal facility here?

A large amount of the country's radioactive waste that is earmarked for disposal in a geological disposal facility is already stored at Sellafield. Allerdale Borough Council, Copeland Borough Council and Cumbria County Council therefore started the early stages of this conversation with the Government and have made an 'expressions of interest' in 2008 in the formal Government process.

Talking to the Government about having this site does not commit anyone to it. It would be well over a decade before any construction could start, and the Councils would have the right to withdraw from the process up to this point.

3. Which other areas of the UK have expressed an interest in this process?

The three areas that have expressed an interest are: Allerdale Borough Council – for Allerdale, Copeland Borough Council – for Copeland, and Cumbria County Council – for Allerdale and Copeland.

4. How is this different to the Nirex process in the 1990s?

This process is very different to the Nirex experience in the 1990s.

The Government says a repository will only be put somewhere where the geology is suitable and there is a community that has volunteered to have it. At this point we are looking at whether the areas covered by Allerdale and/or Copeland Borough Councils should take part in the search for a site.

However, even if we take part in this process the Councils would be able to withdraw from the process until a late point when underground operations and construction are due to begin. A new community partnership would be set up to examine the issues and involve local people.

Those Councils that decided to take part in the search for a site would make the formal decisions about things like which areas to put forward for more detailed assessments and investigations, and ultimately which sites, if any, should be put forward for a repository, based on advice from the new partnership.

The Partnership is keen to ensure that the whole process is open and transparent. Our meetings are held in public and we publish minutes and other relevant documents on our website.

The discussions, and initial geological screening, that are taking place at this point are treating all of West Cumbria equally to begin with, rather than focusing around Sellafield, as Nirex did in the 1990s.

Potential areas have only started to be narrowed down following initial screening by the British Geological Survey (BGS) which looked at the whole of Allerdale, Copeland and the area up to five kilometres off shore. If a decision to participate in the siting process is subsequently taken, further work will identify potential sites in the areas that have not been screened out.

5. What will happen next?



Once we have looked at all the results of the consultation we will finalise our report to the three Councils giving our opinions on the issues that would be involved in taking part in the search for somewhere to put a repository. This will probably be in the summer of 2012.

Later in the year Allerdale Borough Council, Copeland Borough Council and Cumbria County Council will make a formal decision about whether to take part in this process. Each council

will consider the report from the Partnership and take a decision in their Full Council or Executive Committee.

Both the Borough Council and the County Council would need to be in agreement for an area to formally enter the siting process.

A decision to participate would not be a decision to host a facility. At this stage we are looking to make a decision in principle about whether we are prepared to consider hosting a geological disposal facility somewhere in West Cumbria.

If West Cumbria does make a decision to participate, a new community partnership would be established to build on the work done by the current Partnership. Ongoing partnership discussions would be coupled with the Nuclear Decommissioning Authority looking at a wide range of criteria, including detailed safety, social, environmental and geological assessments to begin to narrow the focus to potentially suitable sites.

The Councils that have decided to take part in the search for a site would make the formal decisions about things like which areas to put forward for assessments and investigations, and ultimately which sites, if any, should be put forward for a repository, based on advice from the new partnership. The Councils would be able to withdraw from the process right up to the point when work on building a facility could start, probably well over a decade from now.

6. Why not have a referendum?

We discussed this issue at length and we concluded that, at this stage in the process, an opinion survey rather than a referendum should be used to gauge whether or not net support for a decision to enter the siting process exists. This is because:

- It avoids the claimed negative features of referendums such as low or unrepresentative turnout, manipulation of views by organised interests, over-simplification of the issues, and the risk of other issues influencing people's responses.
- We found during our second round of public and stakeholder engagement that there is a mix of opinion on using referendums. Although some participants asked that referendums be used as a method of gauging support, on considering the practical implications they concluded that referendums would have to be carried out at the right point in the process, when more detail is available, for example, on impacts, benefits and siting.
- In the limited number of countries where referendums have been used in a volunteer process (Hungary and South Korea), this has only been done at the stage when potential sites and well defined potential host communities have been identified, which is later in the process than we currently are at.

The potential use of referendums and other methods to inform decision making in later stages of the siting process can be kept open for review if a decision to enter the siting process is taken.

We wanted to make sure that the opinion survey we undertook was independent and statistically representative, and that a legitimate approach was taken. We therefore used a reputable polling company and also hired two expert reviewers to check the methodology and survey, as well as the polling company's work.

7. Who will take the decision whether or not to participate in the next stage of this process?

The formal decision as to whether or not to participate in the next stage of this process will be made by Allerdale Borough Council, Copeland Borough Council and Cumbria County Council, who are defined as the Decision Making Bodies in the Government's MRWS White Paper.

The Government has said that any council that wishes to make a formal decision to participate in the next stage of the process will have to be able to show that such a decision is credible given the views of their partner organisations and the local community. Each council will consider the report from the Partnership and before they take a decision.

8. Will the community where the facility would be sited have a veto?

At the point when the Councils will make a decision whether or not to participate in the next stage we would not know where a facility might be sited because that would depend on detailed assessments and investigations.

If the areas covered by Allerdale and/or Copeland Borough Councils do take part in the search for a site, it would still be some years before possible sites are identified.

At certain points during the search for a site the partnership would need to use a method, such as an opinion poll, to find out what the public thinks.

The new partnership's objective should be to achieve consensus across all the potential host communities within an area considered for surface based investigations. An opinion poll may show support for moving forward across the potential host communities as a whole but one or more potential host communities may decide they did not want to go to the next stage. If this was based on reasoned justification and on demonstrable community support and the partnership decided it would be possible to move to the next stage without these potential host communities, the presumption should be that they would be left out of the process.

In the event of the partnership concluding that the omission of a potential host community would create insurmountable problems for the siting process then it could recommend the inclusion of the community concerned if this was supported by a full justification and explanation.

Before the final right of withdrawal comes to an end, we think it would be particularly important to use various methods, including something like a representative opinion poll or a referendum, to gauge whether there is support for a repository being located at the site, from within the potential host communities and among wider local interests.

For more detail on this see Chapter 10 of the consultation document.

9. Can we rely on the right of withdrawal?

The Government's MRWS White Paper describes the right of withdrawal as follows:

'The Right of Withdrawal (RoW) is an important part of the voluntarism approach intended to contribute to the development and maintenance of community confidence. Up until a late stage, when underground operations and construction are due to begin, if a community wished to withdraw then its involvement in the process would stop.'

'As with other key local decisions in the siting process, the Decision-Making Body will be responsible for exercising the RoW, based on advice and recommendations from the local Community Siting Partnership.'

Although we recognise that some people are sceptical that the Government will honour commitments to a right of withdrawal, we believe the assurances are adequate for this stage of the process. Given that this is in the White Paper and therefore Government policy, there would have to be a Government decision to change it.

10. What if we decide not to participate? Could this area then be forced to host a facility?

The Partnership believes that if we do reject hosting a geological disposal facility it would be very difficult for any Government to then impose it on this area.

The Government says that if this does happen, the first stage would be for them to talk to communities that have withdrawn from the process about what had caused them to withdraw. There could be further rounds of calls for volunteers along adapted lines and there could be a further consultation on how to improve the process.

They say the worst case scenario could be a full scale consultation on alternative site selection processes to allow the Government to proceed in managing this waste.

Questions about geological disposal:

11. What is the waste that would be included in the geological disposal facility?

The waste that would go into a repository is higher activity radioactive waste includes high level waste, intermediate level waste and some low level waste (with a long half-life) that cannot be sent to the Low Level Waste Repository near Drigg in Cumbria.

Higher activity waste is currently stored above ground, the majority of it at Sellafield. This waste decays over time but some of it remains hazardous for many thousands of years.

For a fuller description of the different types of waste see below:

In the UK, radioactive waste is classified under the following broad categories:

- High Level Wastes (HLW) – These are highly radioactive and generate substantial amounts of heat. HLW is a product from reprocessing spent nuclear fuel at Sellafield in Cumbria. If declared a waste, spent fuel would also be categorised as HLW.
- Intermediate Level Wastes (ILW) – These are wastes where the radioactively levels are higher than for Low Level Waste, but which do not require heat levels to be taken into account in the design of management facilities. ILW is sufficiently radioactive to require shielding and containment. It arises mainly from the reprocessing of spent fuel and from operations and maintenance at nuclear sites.
- Low Level Waste (LLW) – Unlike HLW and ILW, LLW does not normally require shielding during handling or transport. Currently, LLW consists largely of paper, plastics and scrap metal items that have been used in hospitals, research establishments and the nuclear industry. In future there will be large volumes in the form of soil, concrete and steel, as nuclear plants are decommissioned.
- Very Low Level Waste (VLLW) – This is a sub-category of LLW, consisting of the same sorts of materials, and divided into Low Volume ('dustbin loads') and High Volume ('bulk disposal'). Low volume VLLW can be disposed of in unspecified destinations with

municipal, commercial or industrial waste. High volume VLLW can be disposed of in specified landfill sites and controls are necessary as specified by the environmental regulators.

12. How long is the waste active and dangerous for?

The amount of radioactivity given off by a radioactive substance will gradually decrease. This is called radioactive decay. The time it takes for the radioactivity to decrease by 50% is called the half-life.

Different radioactive atoms have different half-lives: some can be a matter of seconds; some can be many thousands of years. Therefore the amount of radioactivity will reduce as time goes on, but for some atoms this will take millions of years.

13. Why is the Partnership only looking at geological disposal?

Government policy is for geological disposal. Therefore the Partnership is only discussing geological disposal and not other potential approaches to managing higher activity radioactive wastes in the long term.

An independent committee of experts, the Committee on Radioactive Waste Management (CoRWM) recommended that geological disposal was the best available long-term approach compared to other ways of managing higher activity radioactive waste.

Higher activity waste is currently stored above ground, the majority of it at Sellafield. This waste decays over time but some of it remains hazardous for many thousands of years.

The Committee on Radioactive Waste Management said geological disposal would be safer in the longer term than storage above ground e.g. because of the risk of terrorism. They also said that we cannot rely on societies hundreds or thousands of years from now to manage these wastes safely above ground.

The Committee on Radioactive Waste Management's recommendations received wide-ranging support. Geological disposal is also the preferred approach in most other countries with nuclear waste.

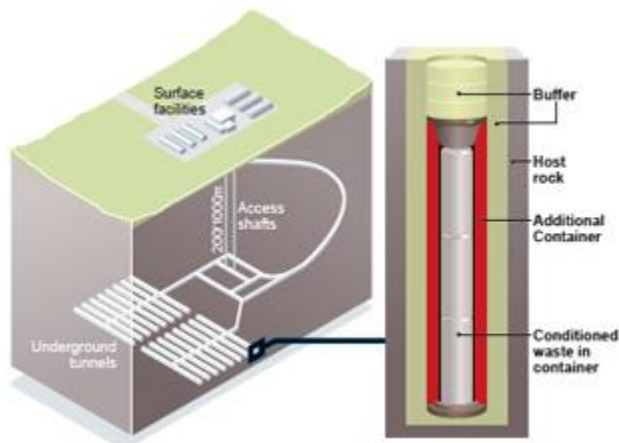
However, some people and organisations are not convinced about the long-term safety of geological disposal and oppose having an underground repository. These organisations include Greenpeace, Friends of the Earth, Don't Dump Cumbria and Radiation Free Lakeland.

For more information read the Partnership's briefing document on Geological Disposal.

To find out more information about geological disposal and what other countries are doing visit the Department of Energy and Climate Change's website (www.decc.gov.uk).

To find out more about CoRWM visit their website (<http://corwm.decc.gov.uk/>). Further information about the recommendations made by CoRWM to the Government are included in the report from a seminar held by CoRWM for members of the Partnership (Document 120 in the Documents section).

14. How would a geological disposal facility stop radioactivity returning to the surface?



The Government says geological disposal involves placing the waste deep underground in a purpose built facility, called a geological disposal facility or a repository, leaving the waste there forever once it is closed.

It is based on the idea that radiation can be contained for extremely long periods by a combination of engineered underground structures and the surrounding rocks. This is called a multi-barrier approach.

While the waste is in the facility, the level of radioactivity will reduce over time.

15. Would it be possible to take the waste out once it has been put into the facility?

We believe it is important not to rule out the option to retrieve waste from the facility at a later date. This is not a simple issue. There would be advantages and disadvantages to sealing off a repository completely or keeping the waste accessible.

The Government has said they are content that the issue of 'retrievability' is left open at this stage. This issue would be resolved much later in the process taking account of the views of local communities.

16. How big would a facility be? What would it look like?

A repository would be located between 200 and 1000 metres underground.

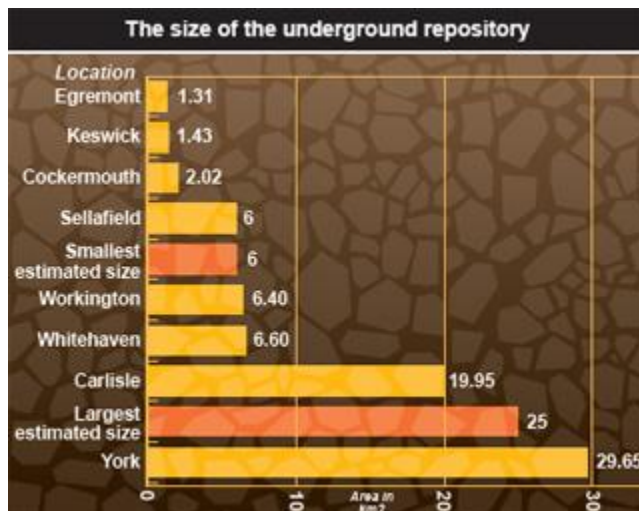
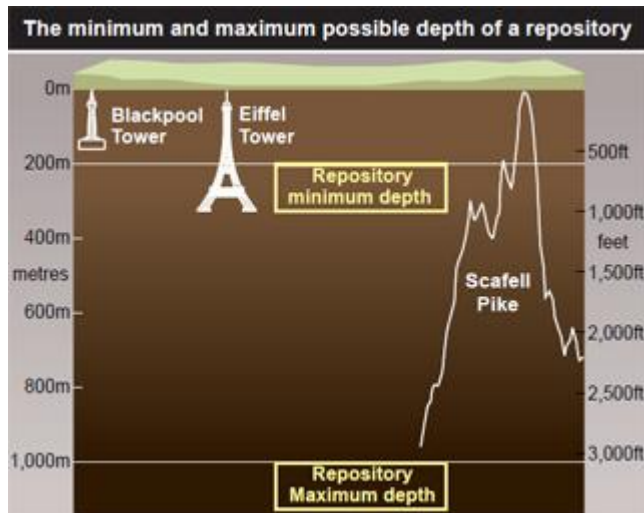
The underground facilities could be somewhere between 6 km² and 25 km² (2.5 and 9.5 square miles) in size, depending on the type of rock, and how much and what kind of waste would be placed into the repository. This would be between approximately one and four times the size of the Sellafield site. The amount of rock that would need to be excavated to create the facility is similar to what was removed during the building of the Channel Tunnel.

There would also be surface facilities with buildings such as administration offices, workshops and possibly a waste packaging facility. It is estimated these facilities would be about 1 km².

The underground facilities would be accessed through sloping tunnels and vertical shafts. The Nuclear Decommissioning Authority, which is responsible for implementing geological

disposal, says surface facilities could either be above the underground facilities or up to 10km away, possibly further.

To get more of an idea what a geological disposal facility would look like visit the Department of Energy and Climate Change's website.



17. Is this connected with plans to build new nuclear power stations?

The process to find a geological disposal facility for radioactive waste and the search for a site for new nuclear power stations are entirely separate.

The Government says that the main purpose of a facility would be to house existing higher activity radioactive wastes and a large amount of the radioactive waste that is earmarked for disposal in a geological disposal facility is already stored at Sellafield. However, the facility could house waste from any new power stations that may be built.

The issue of whether waste from new nuclear power stations would go into a repository is of concern to some people. We agree this is an important issue but feel that this is a decision to be made if or when new nuclear power stations are constructed in the UK.

18. How does this differ from very low level waste going to landfill?

This process is an entirely separate one specifically for the country's higher activity radioactive waste. This is waste that cannot be managed under the procedures for low level waste. Higher activity radioactive waste includes high level waste, intermediate level waste and some low level waste (with a long half-life) that cannot be sent to the Low Level Waste Repository.

This higher radioactive waste is currently located at 34 sites around the UK, but most of it is at Sellafield.

Questions about key issues

19. Hasn't West Cumbria already been found to be geologically unsuitable?

Some people argue that there is already enough evidence to show that the whole of West Cumbria is geologically unsuitable. See the External Documents section of this website and www.davidsmythe.org for more details.

After looking at a range of views and evidence our opinion is that the argument that all of West Cumbria should be excluded as unsuitable at this stage is not generally accepted within the professional geological community.

For example, the Committee on Radioactive Waste Management (CORWM) wrote to the Partnership (Document 162) and stated: "Our position is that there is presently no credible scientific case to support the contention that all of West Cumbria is geologically unsuitable".

Dr Jeremy Dearlove, the Partnership's own independent peer reviewer, has said: 'I feel it is more Professor Smythe's personal opinion, and not the opinion of the wider geological community, that... the area should not be considered potentially suitable'.

In the absence of clear, detailed evidence showing that all of West Cumbria should be ruled out, our initial opinion is that there is enough possibly suitable land to make further investigations worthwhile.

We believe it will only be possible to find out if there is a suitable site for a repository if there are more detailed investigations, including boreholes, to test the rocks in the area.

For more detail on this see Chapter 4 of the consultation document.

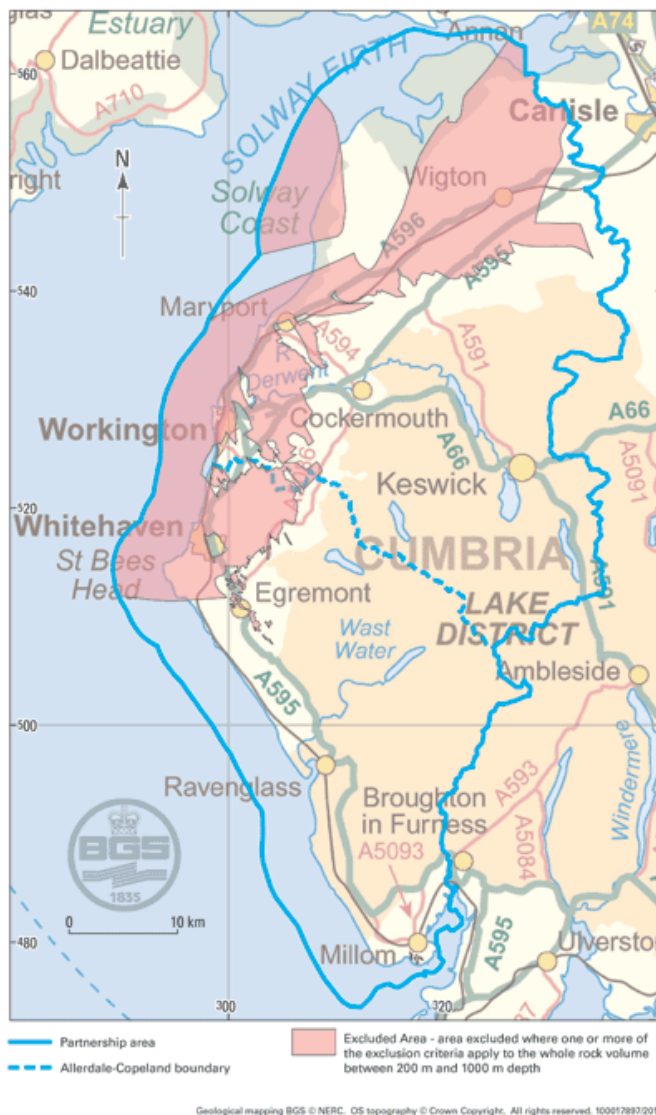
20. What was the geological screening study?

This study was commissioned by the Government and carried out by the British Geological Survey – the UK's geological experts. This was a fairly basic geological study and only used currently available information. It did not involve new field investigations and there was no consideration of non-geological factors.

The British Geological Survey looked at the whole of Allerdale and Copeland as well as an area up to five kilometres offshore.

It ruled out areas from hosting the underground repository based on criteria set out by an independent scientific panel. These criteria are largely based around two key issues - the need to exclude areas in order to reduce the risk of intrusion into a facility by future

generations seeking to extract resources, and the need to protect the quality of exploitable groundwater.



It does not show which areas could definitely host a facility but rules out areas that absolutely could not host the underground workings of a geological disposal facility for obvious geological reasons. It is also important to be aware that the surface facilities could still be in these areas.

This is an early stage in the process and detailed assessments, applying more localised geological and other criteria will only be made IF this area decides to take part in the Government search for somewhere to put a repository.

For more detail on this see Chapter 4 of the consultation document.

21. What does it mean if an area is screened out or not screened out?

If an area is screened out it will be excluded from any further consideration for an underground facility. However, it does not affect the location of the surface facilities as these could be a number of kilometres from an underground facility and could therefore be located in an area that is found to be unsuitable for the repository.

The Government say that this work does not show where an underground facility would eventually be located. It is simply intended to avoid unnecessary work in areas which are clearly unsuitable on geological grounds.

Members of the Partnership are clear that a repository could only be built somewhere that is suitable, both geologically and in terms of the wider environmental and social impacts it would have. It would take much more detailed investigations, over a number of years, to establish which areas were suitable.

This is an early stage in the process and it is right that these detailed assessments, applying more localised geological and other criteria will only be made IF this area decides to take part in the Government search for somewhere to put a repository.

For more detail on this see Chapter 4 of the consultation document.

22. Could safety be ensured if the facility does go ahead?

Safety is the overriding issue in this process for all of us.

The Nuclear Decommissioning Authority (NDA) is responsible for developing the plans for a repository and demonstrating that it would be safe. The regulators – the Environment Agency and the Office for Nuclear Regulation – would also be responsible for ensuring that the design and operation of any facility meets their standards for environmental protection, safety, security, waste management and radioactive waste transportation.

The Nuclear Decommissioning Authority has produced general proposals that look at how a repository could be constructed and operated safely. However, they could only do specific work on designing a repository at a later stage, once a site is found.

Some people have concerns about whether a geological disposal facility could be safe. For example, an organisation called Nuclear Waste Advisory Associates (NWAA) has produced a register of issues they believe would need to be addressed in developing plans for a repository. See Criterion 1 in the documents section of our website and www.nuclearwasteadvisory.co.uk for more details.

We have listened to evidence from the Nuclear Decommissioning Authority, the regulators and others. We have also commissioned independent views of the Nuclear Decommissioning Authority's current research on the design and safety of a repository.

On the basis of the information available now we believe the Nuclear Decommissioning Authority and the regulators have suitable capability and processes in place to protect local residents, the workforce and the environment. However, further monitoring and independent review would be needed as plans are developed.

For more detail on this see Chapter 5 of the consultation document.

23. Who will regulate the safety of any geological disposal facility?

The following answer has been provided by the Environment Agency and the Office for Nuclear Regulation:

The Environment Agency and the Office for Nuclear Regulation will regulate any geological disposal facility in England and Wales. We are working together to make sure that the

design and operation of any facility meets our high standards for environmental protection, safety, security, waste management and radioactive waste transportation.

Before developing, operating or closing any geological disposal facility, the developer needs to apply for permits and licences. Before issuing a permit or licence, we need to be satisfied that the developer's safety cases are consistent with our regulatory requirements. These requirements take account of international standards and guidance, our knowledge and experience, and, in some cases, responses to public consultations.

We review our requirements periodically to ensure they remain consistent with current knowledge and understanding. For further information, see our joint website: <http://www.environment-agency.gov.uk/geological-disposal>.

24. Does the risk of earthquakes in West Cumbria mean we should not be considering siting a repository in the area?

The Government says a geological disposal facility (GDF) will not be built in any area that is unsuitable and that a GDF will have to meet the demanding safety case requirements of the independent safety and environmental regulators. They say that 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 GDF must be thoroughly investigated.

A thorough Seismic Hazard Assessment would be an essential element in the tests that would have to be carried out to identify a possible site for a GDF and is one of the requirements of the regulators' safety assessment principles.

However, the Government says this can only be properly undertaken later in the siting process when more in-depth investigations can take place at a particular site. These more detailed investigations will only be carried out if West Cumbria decides to participate in the search for a site, without making any commitment to have it.

25. What impacts might a repository have on the area?

If a repository is built in West Cumbria it could lead to a number of different negative and positive impacts. These might include things like the effects of construction such as spoil, noise and dust; whether there would be any impact on health; whether the special qualities of the Lake District National Park would be affected; and whether there would be impacts on the tourism and food production industries.

We are satisfied at this stage that an acceptable process can be put in place to assess any negative impacts and either sufficiently reduce their effect or compensate for them.

However, we would only have a clear picture of what the impacts would be if a site is identified and more detailed plans are produced.

We have also considered whether a repository could be in the longer term economic interests of the area. For example the NDA say there would be an average of 550 people a year employed building and operating a repository over a 140 year period.

If this process continues it would be necessary to look at how it might be possible to ensure people in the area could benefit from these opportunities, and also, whether there might be any negative impact on jobs in other areas such as tourism.

For more detail on this see Chapter 6 of the consultation document.

26. What about the spoil that would come from the construction of a repository?

Considerable amounts of spoil would be generated by a repository, roughly equivalent to that excavated for the Channel Tunnel. The construction of the facilities would therefore have a significant impact on local communities.

Illustrative designs published by the Nuclear Decommissioning Authority assume that much or all of this spoil would be kept on site by building 12 metre high embankments. Where possible, they say this spoil would be used as backfill in the repository or removed from site for resale as aggregate.

Further information on this is available in the NDA's Generic Environmental and Sustainability Report which can be found at:

<http://www.nda.gov.uk/documents/loader.cfm?url=/commonspot/security/getfile.cfm&pageid=46357>.

However, we are aware that the specific site location has a significant influence on how much spoil there is, whether it can be used as backfill, and whether it can be sold as aggregate or not. This is therefore a key area of exploration and understanding for any future partnership, if and when specific sites are identified.

27. How might this affect the Lake District National Park?

The Lake District National Park is important to people in Cumbria but also to people across the whole country. It is not only an important environmental asset but attracts millions of visitors to the area every year.

The possible impacts of a repository on the Lake District National Park will need to be carefully considered if there is a decision to take part in the search for a site for a repository.

We also recognise that planning policies, relevant strategies and legislative frameworks relating to land use will need to be considered as an early step if the process moves forward. This may rule out certain scenarios, for example siting surface facilities within the National Park.

28. What additional benefits could there be for the community?

If a repository was built there would also be a package of additional community benefits, in recognition of the essential service being provided to the nation.

Our work included commissioning research on UK and international experience of community benefits. This showed that communities have received benefits such as extra investment to generate jobs, new facilities for local people and infrastructure improvements.

We have agreed a set of principles with the Government as the basis for any future negotiations. For example, the principles say community benefits would have to be additional to the investment necessary to build a repository and to investment the community would normally expect. They also say the scale of any benefits would need to have the potential to transform the economic and social wellbeing of the area.

However, we cannot be certain what the Government might agree to this far in advance and, therefore, whether the amount and type of these benefits would match the expectations of local people.

For more detail on this see Chapter 7 of the consultation document.

29. How much waste would go into a repository?

The types and amounts of radioactive wastes that would go into a repository – the inventory – could affect things like the design, size and the amount of time it operates for. Based on the most recent estimates of the amount of waste that could be placed into a repository we estimate that the underground facilities could be between 6 and 11 times the size of the Royal Albert Hall in terms of volume.

However, it is not possible to be certain how much waste would actually be put into a repository this far in advance. We have made satisfactory progress towards agreeing a set of principles with the Government that define an acceptable process for how the inventory could be changed, including how the community can influence this.

For more detail on this see Chapter 9 of the consultation document.

30. Why are there so many questions that remain unanswered?

As we are not yet at the stage of identifying potential sites, there are a number of questions we cannot know the answers to.

For example, there is not enough information to know if there is anywhere in West Cumbria with suitable geology (p5) and we do not yet have detailed designs for a repository because they would depend on the geology of a site (p4).

If West Cumbria does enter the siting process more information would become available and would need to be scrutinised very carefully.

The key questions we need to consider now are 'Do we know enough?' and 'Is what we know acceptable to us at this stage to justify taking part in the search for a site?'

Further information about geological disposal and the siting process can be found by reading the [Department of Energy and Climate Change FAQs](#) and also the [Nuclear Decommissioning Authority's FAQs](http://www.nda.gov.uk/documents/upload/Frequently-Asked-Questions-Related-to-Geological-Disposal-February-2011.pdf) (<http://www.nda.gov.uk/documents/upload/Frequently-Asked-Questions-Related-to-Geological-Disposal-February-2011.pdf>).