

West Cumbria MRWS Partnership Q&As

Questions about the MRWS process in West Cumbria:

1. What was the West Cumbria MRWS Partnership?

The West Cumbria MRWS Partnership included 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 was not taking any decisions. The Decision Making Bodies are Allerdale Borough Council, Copeland Borough Council and Cumbria County Council.

The Partnership had 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 in 2008 made an 'expression of interest' 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 West Cumbria MRWS Partnership wanted to ensure that the whole process was open and transparent. Its meetings were held in public and it published minutes and other relevant documents on its website.

The discussions, and initial geological screening that has taken place, 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?



On January 30th 2013, Allerdale Borough Council, Copeland Borough Council and Cumbria County Council will each make a formal decision about whether to take part in the search for a repository site. Each council will consider the Partnership's Final Report and take a decision.

For an area to formally enter the siting process, both the Borough Council and the County Council would need to be in agreement.

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

If West Cumbria does make a decision to participate, a new community partnership would be established to build on the work done by the Partnership which produced the report for the Councils. 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?

The Partnership discussed this issue at length and 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.
- The Partnership found during its 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 West Cumbria is currently 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.

The Partnership wanted to make sure that the opinion survey it undertook was independent and statistically representative, and that a legitimate approach was taken. It 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 before they take a decision.

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

It is the Decision Making Bodies (DMBs) that have a right of withdrawal. However, the Partnership's view is that the Stage 4 process would be unlikely to secure community confidence and trust unless 'voluntarism' is at the forefront of thinking, and the views of potential host communities are seen to be carrying very significant weight in the decisions of the DMBs.

In a situation where a potential host community has provided a well-reasoned justification for exclusion from the siting process which has general community support, a DMB would normally be expected to conclude that 'credible local support' had not been secured for sound reasons which outweighed other considerations. However, we recognise that this may not always be the case.

There could be exceptional circumstances where credible local support could reasonably be judged to exist, notwithstanding the contrary views of one community within the local area concerned.

The Partnership recognised that this is very sensitive issue that could seriously undermine community trust in the process if not handled properly. If a decision to enter Stage 4 is taken, it advised the DMBs to negotiate a 'Partnership Agreement' with other community siting partnership members (consisting of representatives of potential host communities, and wider local interests) about the way decisions would be taken and views taken into account.

9. Can we rely on the right of withdrawal?

The Partnership advised that prior to a decision about participation, the Decision Making Bodies secure a commitment that, by the end of Stage 4, the Government will have decided what mechanisms it will use to make key parts of the MRWS process (including the right of withdrawal) legally binding. The Partnership received this commitment from the Energy Minister shortly before completing work on its Final Report, and advised that any community siting partnership should tackle this early in its work programme.

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

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, which 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 was the Partnership only looking at geological disposal?

Government policy is for geological disposal. Therefore the Partnership was 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 CoRWM 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.

CoRWM's recommendations received wide-ranging support. Geological disposal is also the preferred approach in most other countries with nuclear waste.

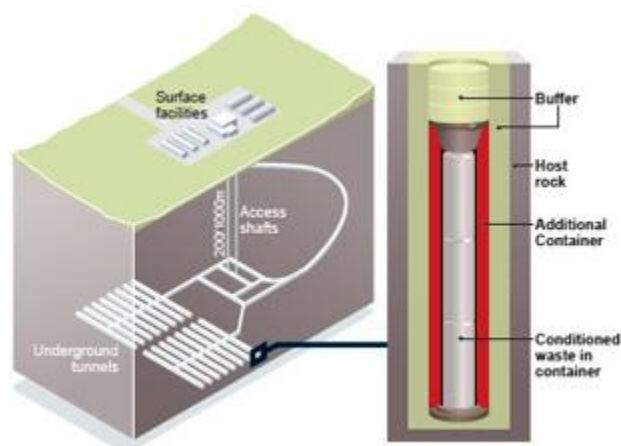
However, some people and organisations are not convinced about the long-term safety of geological disposal and oppose having an underground repository. These organisations include Greenpeace, Friends of the Earth, Don't Dump Cumbria and Radiation Free Lakeland.

For more information read the Partnership's briefing document on Geological Disposal (Document 92 in the Documents section of the website).

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).

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?

The Partnership looked at 'retrievability', which means the possibility of withdrawing the waste after it has been put into a GDF. It confirmed that retrievability of waste is an option, to be decided on in the future.

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

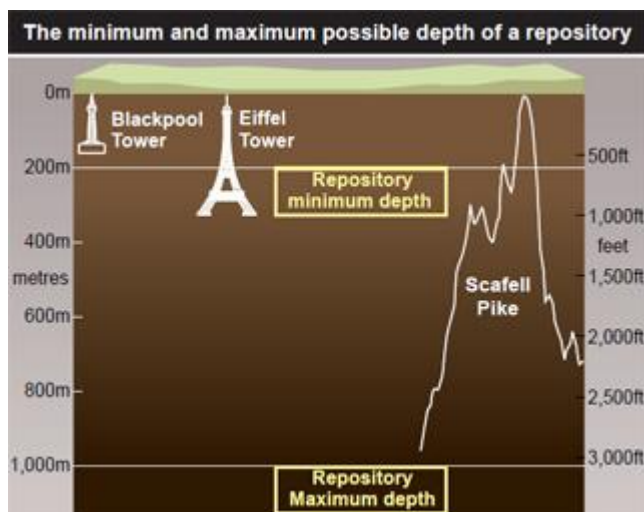
A repository would be located between 200 and 1000 metres underground.

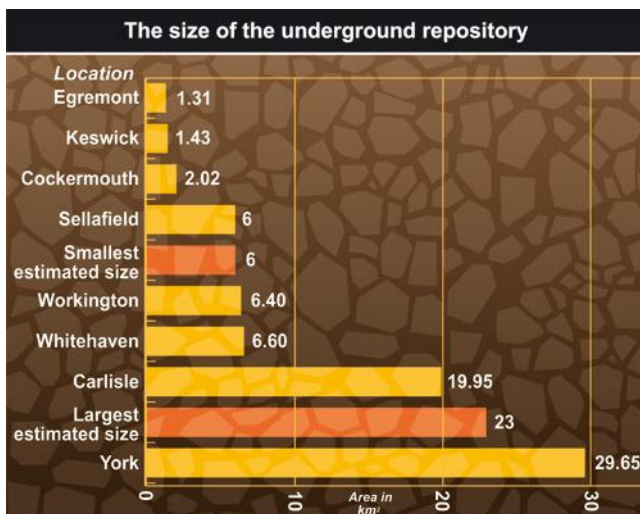
The underground facilities could be somewhere between 6 km² and 23 km² (2.5 and 9 square miles) in size, depending on the type of rock, and how much and what kind of waste would be placed into the repository. (The higher figure was originally given as 25km², but the Nuclear Decommissioning Authority has done further work to look at vault dimensions and has now revised this figure.) 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 (<http://www.decc.gov.uk/>).





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

Higher activity waste and spent fuel from new nuclear power stations would also need to be disposed of as well as existing wastes, but DECC has confirmed that this would be discussed with host communities if the process proceeds.

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 near Drigg in Cumbria.

This higher radioactive waste is currently located at 36 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?

The Partnership received expert geological submissions arguing that West Cumbria's geology is unsuitable and further progress is not worthwhile, but it also received contrary expert advice stating that further progress is worthwhile because not enough is yet known to be able to say that all of West Cumbria should be ruled out.

In its Final Report the Partnership said that it 'agrees that it is inherently uncertain at this stage whether a suitable site can be found, that more geological work is therefore required, and that it should be done as soon as possible'. However, there was a difference of view in the Partnership about whether this further geological work should be done *before* or *after* a decision about participation in Stage 4.

The Partnership agreed that, *if* there is a decision to proceed to Stage 4, a community siting partnership should independently review the NDA's work, in particular the geological assessments.

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 would have to be carried out before a site could for a repository could be identified.

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 says 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 were 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.

See Chapter 8 of the Partnership's Final Report for more detail.

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.

In its Final Report the Partnership said that it was as confident as is possible at this stage that the necessary regulatory bodies exist and have, or are developing/modifying, processes by which they will consider proposals for a geological disposal facility.

It said it believed that the NDA will have suitable capability and an acceptable process in place to develop site-specific safety cases. Of course, any site-specific safety cases would need further monitoring and independent reviews.

The Partnership's opinion was that, overall, the NDA's research & development programme is acceptable. However, it noted that there remain some concerns about the lack of progress with the programme, as well as the lack of clarity over the timescales for completing individual research topics.

The Partnership's additional advice included a suggestion that a community siting partnership secures an 'Engagement Package' (funding) from the Government that allows it to commission independent reviews of any work conducted by the NDA, including safety-related work, potentially via setting up a panel of independent experts.

See Chapter 10 of the Partnership's Final Report for more detail.

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 geological disposal facility was to be sited in West Cumbria it could lead to a number of different negative and positive impacts for the community, the economy and the environment. These might include:

- The immediate effects of construction such as noise and dust.
- Whether there would be any impact on health.
- Changes in investment in the area.
- Traffic impacts.
- Possible effects on the visual or physical environment and on tourism.
- Changes in employment.

These impacts, both positive and negative, would ultimately need weighing up against the impacts of the waste remaining in its current form, and of the above-ground storage arrangements at Sellafield and elsewhere in the country.

The Partnership's overall opinion was that, at this stage, it was fairly confident that an acceptable process can be put in place to assess and mitigate negative impacts, and maximise positive impacts.

There are potential risks to some parts of the economy if the process moves forward, particularly the visitor, land-based, and food and drink sectors. The Partnership advised that a coordinated strategy and action plan is prepared to support those aspects of Cumbria's economic activity if the process enters the search for a site.

See Chapter 11 of the Partnership's Final Report for more detail.

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, 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/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.

In its Final Report the Partnership said that, if there is a decision to move to the next stage, it advised that areas within the National Park are not considered for surface facilities because of the likely impact this would have on the special qualities of the Park, which would not be consistent with current planning policies.

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

The Government has said that any area in which a GDF is sited would receive some kind of community benefits package. The Partnership said it would expect it to be a substantial long-term investment provided by the Government in things like infrastructure, services and/or skills that benefit the whole community.

The Government has agreed that this means that benefits would be beyond those that derive directly from the construction and operation of the facility, and would be in addition to those that the community would normally expect.

The Partnership developed a set of 'Community Benefits Principles' that set out how it would expect community benefits to be discussed, agreed and potentially administered. The Government agreed these principles as a basis for negotiation in the next stage of the process.

The Partnership said 'this gives us a certain amount of confidence that an acceptable community benefits package could be negotiated. We advise that a community siting partnership uses these principles as a basis for negotiations with the Government, if Stage 4 starts.

'However, we cannot be certain what specific package 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.

'We believe a final decision to accept a GDF should only be made if the community is convinced that the Government – and future governments that follow – will honour commitments on community benefits.'

See Chapter 12 of the Final Report for more detail.

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.

The Partnership's opinion was that, overall, it was content that detailed design issues are largely site-specific and, as such, cannot and should not be resolved at this time. Specifically, the Partnership said that it understood the generic design concepts being worked on, and they fitted with its expectations.

See Chapter 9 of the Partnership's Final Report and Chapter 9 of the Consultation Document (Document 242) for more detail.

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

A great many uncertainties remain, primarily because they relate to issues that can only be considered in detail at a later date. In its Final Report the Partnership considered how uncertainties could start to be reduced as quickly as possible if this process continues. In particular, it said that 'should a decision to participate be taken, we would advise that a

community siting partnership uses the indicative schedule provided in the 'Stage 4 and 5' chapter [Chapter 13 in the Partnership's Final Report] to build its work programme and, in doing so, help reduce the range of uncertainties that exist'.