Notes of MRWS Steering Group including discussion with the Lead Inspector and Technical Assessor from the Nirex Inquiry

29th March 2012

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Title:	Notes of MRWS Steering Group meeting held on 29th March 2012 Bainbridge Room, Copeland Centre, Whitehaven
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Present:

Cllr Tim Knowles (CCC), Paul Feehily (CCC),Cllr Elaine Woodburn (CBC), Paul Walker (CBC), Steve Smith (CBC), Richard Griffin (ABC), Charles Holmes (ABC),Cllr Keith Hitchen (CALC), Guy Richardson (CALC), Paul Gardner (Osprey Communications), Rhuari Bennett (3KQ), Richard Harris (3KQ), Jane Dalton (3KQ), Stuart Smith (Wood Holmes)

Apologies:

Stewart Kemp (CCC), Cllr Alan Smith (ABC)

Guests:
Chris McDonald – Lead Inspector from the Nirex Inquiry
Colin Knipe – Technical Assessor and advisor on Geology and Hydrogeology

Other Guest:
Jeremy Dearlove (FWS Consultants Ltd)

The meeting was held in two parts. For the first part Chris McDonald and Colin Knipe, the Lead Inspector and Technical Assessor from the Nirex Inquiry, had been invited to meet with the Steering Group to outline their views on geology and the MRWS process.

The Steering Group meeting followed.

1. Nirex Inquiry Lead Inspector and Technical Assessor

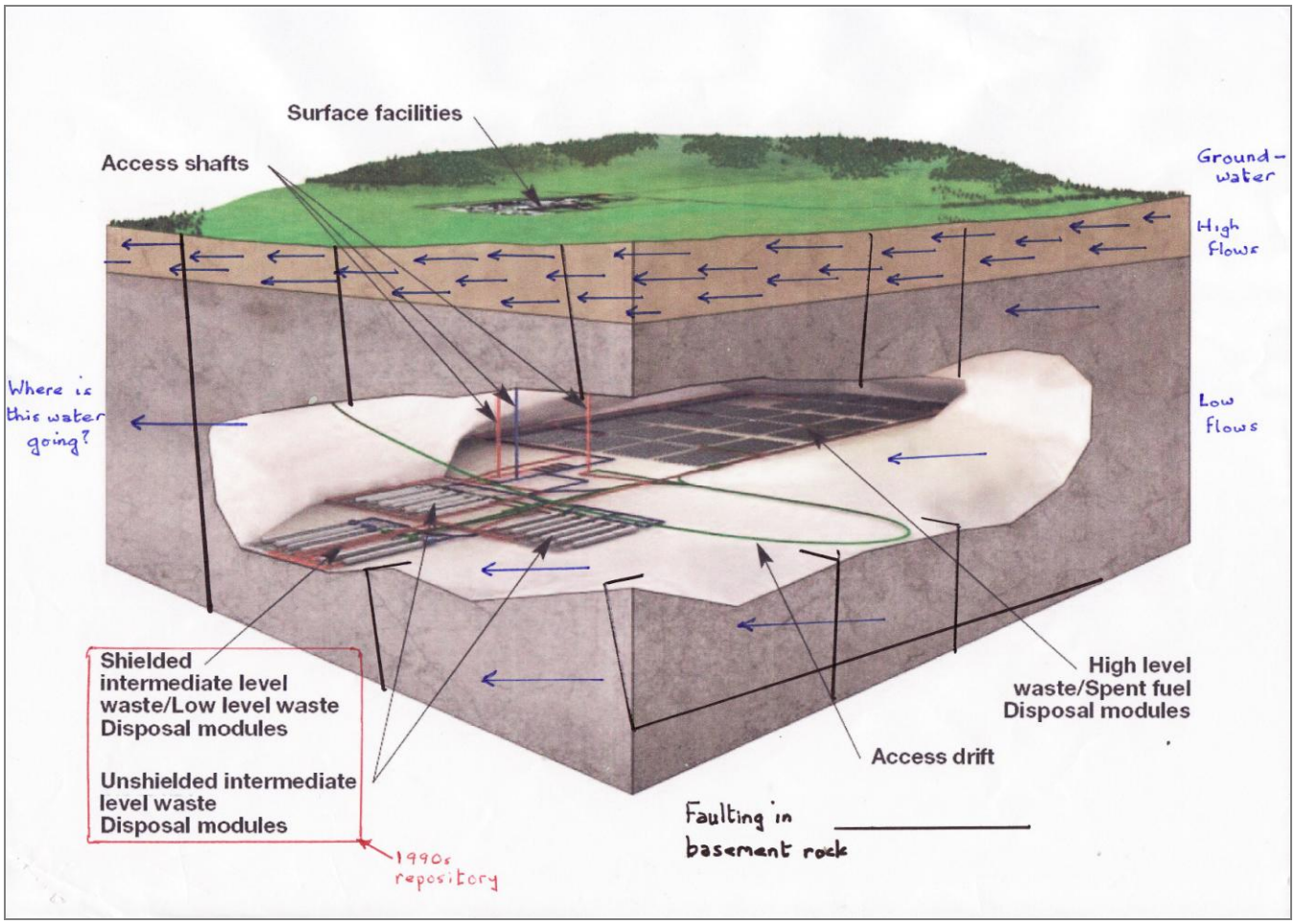
Chris McDonald and Colin Knipe talked through a series of bullet points that they had prepared to present to the Steering Group to explain their thinking on: geology and hydrogeology, and in particular of the site that Nirex was investigating in the 1990s at Longlands Farm; the current MRWS process; and the implications that they feel it may have for the Partnership's work.

The bullet points are detailed in sections below, followed by a summary of the key issues that were discussed and questions that followed.

1. INTRODUCTIONS

2. PREFATORY OUTLINE OF REPOSITORIES

Annotated Diagram [NDA diagram of repository design taken from the Partnership's consultation document and annotated by the presenters]



- **sedimentary cover proportionately too thin**
- **contrasting groundwater flows through sedimentary cover and basement rock**
- **faulting in rock, especially basement**
- **Nirex Inquiry into "Rock Characterisation Facility" (underground rock laboratory), as precursor to 1990s repository**
- **relative sizes of 1990s and White Paper repositories**
- **basic difference in inventories affects requisite performance as well as size**

Further explanation of annotated diagram and related questions

Depth of covering sedimentary rock

It was noted by the presenters that the covering layer of rock in the Nuclear Decommissioning Authority (NDA) diagram, which would typically be sandstone strata, is normally thicker and deeper than shown. In the case of Longlands Farm the sandstone was 500m thick before getting to the basement rock where a repository would be placed. The NDA is proposing that the minimum depth of a repository would be 200m, however guidelines suggest that it would probably be several hundred more metres down.

Water flow

A number of points were made about groundwater flow through and around any repository. It was noted by the presenters that this is of critical importance as, over the lifetime of a repository, it is inevitable that waste packages will disintegrate, and that radioactivity will be released into the repository and will be carried away by any water flowing through it. Where there are cracks/faults in the rocks it is crucial to know how many there are, where they go and their effect on the water flow e.g. do they act as barriers, do they help water to flow and, if so, where do they take it.

In the diagram above, the annotations in the upper sandstone layer represent a strong, high flow of underground water. It was noted that this is the case at Longlands Farm where there is an aquifer that has several wells bored into it for drinking water. A low water flow is sought in the basement rock.

The presenters stated that it is of critical importance that the two flows do not connect too quickly, because if water contaminated by radioactivity wells up out of the repository into the aquifer it will be carried away a lot more quickly before the radioactivity has decayed, and will be at risk of being used as drinking water by whoever is living above the repository at the time. A crucial question is, therefore, where the relatively small volume of water that is flowing through the basement rock is actually going. The ideal situation is that it stays underground virtually forever, until all of its radioactivity has decayed and is no longer harmful to humans or anything else in the biosphere.

At Longlands Farm, Nirex believed that the water flowing towards the sea out of the basement rock was going to rise after a few kilometres under the sea bed near to the coast, into the top rock where it would then be dispersed and diluted. Nirex saw this as an advantageous means of dispersing and diluting the radioactivity.

The Steering Group sought confirmation about this aspect, including the distance of Longlands Farm from the sea, and the presenters confirmed that the majority of Nirex's calculated flow paths at Longlands Farm emerged very close to or in the sea. They also noted, however, that this is not easy to confirm.

Difference between types of waste

It was noted that the NDA is looking for a site for higher level waste (HLW) and intermediate level waste (ILW). This increases the size of the repository in comparison to the one that was being considered by Nirex, as this was for low level waste (LLW) and ILW. The presenters noted that HLW is considerably more radioactive and more heat generating than anything they were dealing with at the time of the Nirex Inquiry, so these factors and the resulting chemistry mean that there are more groundwater and gas effects associated with it than anything they were considering at that time.

Size of facility
It was noted that the NDA is now looking for a site that is on a very different scale to what was being dealt with during the Inquiry.

The proposed Rock Characterisation Facility (RCF) (essentially an underground research laboratory that would have only been a small scale version of the final repository) was 100,000 cubic metres in volume with 1.5 km of proposed galleries underground. The maximum size of the whole repository, as envisaged at that time, was for about 400,000 cubic metres of waste including packaging. The current volume of waste is between 631,000 to 1,160,000 cubic metres, and the required repository footprint in hard rock is 6 to 9 km^2. By contrast the entire Nirex preferred repository zone was only 3.6km^2. The NDA is therefore now trying to find a site that is 1.5 to 3 times as large as the largest site that was being envisaged by Nirex, and Nirex were only looking at one "small corner" of this site for the RCF.

It was also noted that Nirex had great difficulty in optimising the location of the RCF in the area of rock under consideration because the safety case was quite sensitive to moving the laboratory e.g. from one end of the limited preferred repository zone to the other.

3. POLITICO-LEGAL CONTEXT OF WHITE PAPER

3.1 Importance of Geological Setting of Repository Site

- **main functions of geological setting:-**
  - **isolation of waste from human activity, climatic changes & minor geological events**
  - **containment of radioactivity in case of catastrophic event within repository**
  - **flexible last barrier**

3.2 Initial Search for Potentially Suitable Settings

- **seem currently to be overlapping procedural difficulties with geology:-**
  - **gap between definite unsuitability and potential suitability**
  - **need to reconcile voluntarism with scientific choice of suitable geological setting**

- **an implicit geological review phase between Stage 2 Initial Screening and Stage 4 Desk-based Studies**

3.3 Subsequent Review (in White Paper Stage 5) by Spatial Planning Process of Potential Site Areas & Candidate Sites

- **Nirex Rock Characterisation Facility was already at equivalent of Stage 5**
- **review almost certain to be done by central independent body**

- **body entitled to form its own view of geological suitability of location**

- **body would also review Environmental Assessments, which would have to deal with Alternative Disposal Options, including alternative sites**

3.4 Benefits and Constraints of International Law & Policy

- **IAEA Safety Requirements 2006 & Safety Guide 2011 provide framework for objectively assessing Site Areas & Candidate Sites**
- **also Euradwaste Series No.6 recommends similar siting criteria**
- **criteria include uniform rock amenable to overall characterisation; low groundwater flows; & isolation from human activity**
- **binding European Law of Euratom Treaty requires notification to European Commission of plans for disposal of radioactive waste (Article 37)**
- **1992 Rio Declaration & National Planning Policy (PPS 23) expect conformity to the "precautionary principle"**
- **impact on the Irish Sea would be treated as a trans-boundary effect.**

Questions, discussion and key issues

White Paper – geological screening and voluntarism

The presenters explained what they mean in 3.2 by 'an implicit geological review phase' between initial screening (Stage 2) and desk-based studies (Stage 4). They stated that the White Paper misses a stage of 'regional screening', where some fairly simple robust ways are used to narrow down the area of search to potentially promising sites. They stated that it is not possible to go straight from saying that an area is possibly suitable for a repository, to finding a few site areas which it is hoped will contain candidate sites. There is a lot of work to be done in between and they feel that this is glossed over in the White Paper. They further noted that it is not viable to spend half a billion pounds on every small $5km^2$ block so screening has to be done if for no other reason than cost.

In response to a question about the costs of different approaches, and whether desk-top studies would give good enough results, the presenters stated that before Nirex the British Geological Survey (BGS) went through the process of screening the whole of the UK on the information it held at the time. The BGS could, therefore, narrow the whole of the UK down into better or worse geological locations and, in the presenters' view, that would be much better than the "broad-brush" screening that has been carried out in West Cumbria on a very narrow range of criteria.

Problems relating to voluntarism were also highlighted, including the difficulties of the overlap between looking for potential site areas and also taking a community along. The approach used by Nirex was to identify potential sites, taking social and economic criteria into account as well as geological ones. Whilst acknowledging that the move to looking for volunteer communities is worldwide, the presenters stated that it is pretty extreme to try to identify a potential host community before identifying whether there are any potentially suitable sites there.

It was acknowledged that this might be different if there were, say, half a dozen volunteers from around the country. One Steering Group member argued that this was never going to happen, but it was suggested by others that volunteer sites could be found if the Government was prepared to spend enough money and e.g. operate in the way that the French do. It was also reiterated that West Cumbria expressed an interest because 70% of the waste is already stored here.

Request for information from CoRWM on their views on national screening
CALC noted that a number of people have made the point that there should have been a national screening exercise, and they have been asked in numerous meetings why the Government have not done this. CALC have therefore recently written to CoRWM to ask them whether they discussed/considered and rejected national screening as an option, and to provide references/links to where it was debated.

Whilst there were some doubts about whether CoRWM would have discussed this as their remit was to look at the best method of disposal, CALC noted that CoRWM also looked at process options. They further noted that the Partnership will need to answer questions that have been raised about this issue.

CALC will circulate the response from CoRWM.

Planning process
There was a reminder that in 1996, Nirex were already at the equivalent of Stage 5 of the MRWS process, and that the result of the Inquiry "stopped Nirex in its tracks". The work that will need to be carried out by the NDA and a potential host community to reach the equivalent of that stage will be subject to an equivalent process i.e. some form of planning inquiry or planning investigation by whichever body is in place at the time.

The presenters stated that this is almost certain to take any spatial planning decisions out of the hands of the local planning authorities due to their connections with the host community, and that the European Courts of Justice and Human Rights can be expected to ensure that they go to an independent planning body.

It was noted that three councils in Norfolk have just been reminded that, under European law (incorporated into UK law), a Strategic Environmental Assessment (SEA) must look at alternative sites. The review of the NDA's SEA will therefore include a review of alternatives and alternative sites, and the presenters stated that it is likely that it will be suggested that there are better sites in other parts of England. The hurdle at that stage would be to prove that the proposed site is as good as it needs to be i.e. it is clearly going to meet the regulatory requirements, and there is therefore no point in going any further.

It was suggested by a Steering Group member that this gives the impression that the only thing that the IPC (or equivalent body) will look at is geology and not other things such as voluntarism. The response was that the planning body will form its own view on whether the suggested location is reasonable or not in line with spatial planning policies etc., and that, whilst the body must take account of Government Policy for Radioactive Waste Disposal, this cannot necessarily override Planning Policy and dictate planning decisions.

CALC agreed with what had been said about the potential pitfalls and difficulties in relation to the legal context. They noted that CALC have been concerned about the issues of alternative sites for a number of years, and they have been in correspondence with DECC to try to find out their thinking on this issue. This correspondence has not satisfied CALC, and they would like this area regarding potential legal challenges to be addressed as soon as possible.

Benefits and constraints of international law and policy
The presenters reiterated the points listed under 3.4, and pointed out that there are various legal and policy constraints which may help a host community decide which track it is going to go along, and which may hinder the NDA.

For example, the International Atomic Energy Agency (IAEA) has set out guidelines which the NDA and the regulators will be expected to comply with. There is also an older series of guidelines (which come at it from a radioactive waste angle) which have very similar criteria. These criteria are already more specific than the criteria that the NDA is putting to the Partnership about how it will go through its process.

CALC noted that they had also had concerns about this issue.

A question was asked about whether there is more detail in the safety requirements/criteria to define what is meant by low groundwater flows. In response it was confirmed that it primarily means long pathways, and that in this context it usually means at least several kilometres.

Trans-boundary effects
There was a reminder that plans have to be notified by law to the EU when they get to a stage where there is a single concept. The EU's main purpose is to look at trans-boundary affects i.e. whether the plans will affect another member state.

It was noted that other people are making the point in relation to marine discharges that countries like Finland and Japan seem to be content to have sites close to the sea. However, at the time of the Nirex Inquiry it was determined that the impact on the Irish Sea would have to be treated as a trans-boundary effect, and that the Irish State has a legitimate interest in the Irish Sea right up to the UK's shoreline. This was effectively confirmed in subsequent litigation between Ireland and the UK over discharges from the MOX plant.

Input into development of Government policy
The presenters were asked whether either of them, or anyone else involved in conducting the Nirex Inquiry, were consulted on the drafting of the MRWS White Paper. They confirmed that, so far as they were aware, nobody from the Inquiry was involved, nor were they invited to be involved in the CoRWM discussions.

4. LONGLANDS FARM POTENTIAL REPOSITORY ZONE

4.1 State of Knowledge of Hydrogeological/Geological Setting of PRZ prior to Nirex Inquiry

- **mostly indirect knowledge of offshore environment**
- **fair knowledge of onshore setting - simplified stratigraphy:-**
  - **Quaternary sedimentary deposits**
  - **Sherwood Sandstone - "Principal Aquifer" - BGS excluded rock volume down to 500m**
  - **Brockram**
  - **Borrowdale Volcanic Group – proposed repository host rock -"non-aquifer"**
  - **Sedimentary sandstones & slates/shales – largely uninvestigated by Nirex**
- **faulting of rock obviously having a constraining effect on potential siting of repository**
- **hydrogeological setting not well understood onshore or offshore**
- **preliminary safety case very sensitive to posited location within PRZ**

4.2 Principal Scientific Outcomes of Inquiry

- **some basic elements of justification for RCF were missing**
- **does not conform to any of agreed stereotypes of preferred geological environment**
- **hydrogeological/geological setting more complex than entitled to expect**
- **further investigation very likely to add to the complications**
- **basement rock in particular exceptionally difficult to characterise, due to eruptive volcanic origin and to location at junction of Lake District massif and Irish Sea Basin**
- **vital need for more intrusive hydrogeological investigation data over much wider area**

4.3 Significance of Report Nirex 97

- **project-specific findings obsolete as twin-repository now proposed**
- **was last iteration of cycle of preliminary assessments**
- **some of contents had been reported to Nirex Inquiry**
- **was always expected to produce better results than Nirex 95**
- **Nirex 97 itself acknowledges some shortcomings eg**
  - **lack of explicit assessment of time-dependent effects**
  - **impracticability of measuring effective hydrogeological parameters for regional-scale models**
  - **lack of representation of spatial heterogeneity**
- **knowledge of offshore conditions not improved**
- **although Report claimed better understanding of rock properties in fact modelling became even more complex**
- **independent peer-reviewed 1999 study suggested Report's hydrogeological modelling invalid**
- **Report effectively confirmed PRZ failing to fulfil basic isolating function due to overlying aquifer**

- **although Report included more modelling of gas migration pathways, models not validated**
- **all preliminary assessments relied crucially on retardation by an untried cementitious backfill in the buffer around waste packages (NRVB – Nirex Reference Vault Backfill)**

4.4 <u>Experience gained from Longlands Farm Proposal Applicable to White Paper Stages 4/5</u>

- **spatial planning system has crucial role to play in evaluating proposed site**
- **for sites proposed close to the Sea, account must be taken of the attitude of the Irish (& other) Government(s)**
- **look for a location squarely within the geological parameters set by agreed international guidelines**
- **avoid areas at or close to junctions of major geological structures and hydrogeological regimes**
- **confine search to geological environments that appear to be intrinsically good in terms of radiological safety**
- **identify a generous volume of stable, readily characterisable host rock**
- **in preliminary assessments build up a robust case**
- **do not assume that critical gaps in characterisation or safety assessment can be made good with the aid of sophisticated modelling & computing techniques**
- **ensure that all research is subject to genuine peer review up to normal academic standards**.

4.5 <u>Inquiry Team's Expectations of Consequences of Ministerial Decision</u>

- **incoming Government wanted to re-start policy formulation with blank sheet**
- **some later misinterpretation of nuances of Decision**
- **Minister made it clear that he endorsed our critiques of the site selection process, and of the scientific uncertainties & technical deficiencies**
- **Decision cited verbatim without adverse comment or qualification crucial conclusions of Assessor's Report (para. G.52) as in 4.2 above, plus likely to be radiologically better sites available around UK, some with simpler geology & hydrogeology, more readily investigable & characterisable.**

Therefore, we would have expected that, if there had not been a fundamental policy review, a fresh search would have started for simpler & better sites elsewhere in the UK, probably in the geological region that the Assessor had indicated could be promising (paras. B.80/1).

Key issues

The presenters explained that they had included this item because it is apparent that many people believe that the area of Longlands Farm was ruled out on the grounds of geology by the Nirex Inquiry and should therefore not be reconsidered during the current MRWS process.

They expanded on the bullet points above to explain what was known and determined about the geology and hydrogeology of the area of Longlands Farm in the 1990s, and also noted that the knowledge of this area has not moved on much since that time.

The key points that were discussed are summarised below.

Knowledge of onshore and offshore geology
They explained that there was a fair amount of knowledge of the onshore geology in the Longlands Farm area. The offshore geology, however, could not be tested/investigated in the same way as it is not possible to carry out direct physical investigation. The only other evidence comes from what has been gleaned from oil and gas exploration.

The offshore area is very important when a location is very close to the sea. A major difficulty of trying to find a repository site fairly close to the sea in West Cumbria is that it will require a detailed understanding of the offshore geology and this information is just not available.

Hydrogeological setting
The hydrogeological setting was not well understood, either on or offshore. It was also much more complicated than expected and did not conform to international guidelines of low topographical relief. Additionally, West Cumbria is adjacent to the massif of the Lake District and the Irish Sea Basin, which is an area that has moved up and down over geological time.

One of many typical models of how a flow-path might work was outlined, showing how a flow of water could end up one km to half a km out to sea. A 'three-way groundwater system' was also described, highlighting the complex nature of the brine/shallow freshwater/deep saline water regimes and the fact that it isn't known how the brine/freshwater interface may be moving over time. It was noted that the same broad hydrogeological picture is likely to be true anywhere along that area of the coast.

Constraints of faults on RCF/repository design
The nature of the faults in the onshore area were discussed and it was confirmed that Longlands Farm is within a fault zone with a complex 3D pattern of intersecting faulting. The proposed RCF, which was small in comparison to the current proposed repository, needed to fit somewhere between the pattern of faults.

It was also explained that faulting leads to constraints in the design/location of galleries, as the axes of rock stress mean that rock caverns would have a different degree of stability if oriented in one direction compared to another. Nirex agreed that major faults should be avoided. The maximum distance between major faults in the location was in the order of 650m and typically as little as 300m. Nirex were trying to find locations for 500m long galleries meaning that it was difficult to fit them in with these constraints.

Inquiry outcome
At the equivalent of Stage 5 of the MRWS process, as outlined above there were still very large unknowns, and it was partly on the basis of these unknowns that John Gummer (now Lord Deben), the Secretary of State at the time, rejected the Nirex appeal.

Nirex and peer review

A number of points were made about information produced by Nirex. It was noted that peer review had been a continual issue. Although Nirex did introduce after some time what it called 'technical peer review', the reviewers involved were not totally disconnected from Nirex's work (see also discussion on page 13).

The limitations of modelling and computer simulations
The limitations of modelling and computer simulations were discussed and it was noted that, whilst computers may be able to model and manipulate information much faster than at the time of the Nirex Inquiry, the only way to really find out what a complex body of rock is like is to 'take it to pieces' via intrusive investigations.

Implications and recommendations for the Partnership
The presenters emphasised that the reason for drawing all of this to the Partnership's attention is to try to make the Partnership and the local authorities/DMBs aware of some important issues they will have to deal with if they decide to proceed in the MRWS process, to help them decide whether it is worth going ahead.

A number of suggestions were made if the process goes ahead:

- Make sure that the NDA keep within the guidelines and do not let them do what Nirex did and change the definitions.
- Look only for environments that show obvious promise in their geology and hydrogeology, and restrict further investigations to those that continually demonstrate potential to be well within regulatory targets.
- Find a large volume of comparatively uniform rock that can be understood.

5. APPROACH TOWARDS ASSESSMENT OF POTENTIAL SUITABILITY

5.1 Background

- **initial screening out entailed no interpretation of formations for their positive stability & containment potential as hosts for repositories.**
- **probability of eventually identifying a really promising site is low, in our opinion**

5.2 Methodical Selection of Sites

- **ensure that the host communities are well resourced, with truly independent advice**
- **concentrate first on applying geological & hydrogeological criteria derived from established guidelines on preferred geological settings**
- **agree in advance with the NDA the management & process of the difficult transition from possible suitability of geological environments to recommendation of candidate sites to Government.**

5.3 Resolution of Uncertainties over Complex Potential Sites

- **there is a complexity threshold beyond which further investigation becomes pointless**
- **advances in modelling & computing power have not significantly pushed this back**
- **hence the basic necessity to search for:-**
  - **a large volume of truly isolated and stable rock;**
  - **that is so uniform that all its characteristics can be credibly understood, and**
  - **with low groundwater flows.**

5.4 Avoidance of High Hydraulic Gradients

- **in our experience low groundwater flows are a universal criterion for a favourable geological environment**
- **faster flows would shorten the travel time to the biosphere of the radionuclides, resulting in less decay on emergence, and hence greater radiological risk**
- **thus a repository should have a low hydraulic gradient**
- **especially critical requirement in near-coastal locations south from Sellafield, due to complexity of 3 groundwater regimes & poorly understood discharge offshore.**

5.5 Potential Suitability of Parts of Solway Plain

- **much has been screened out afresh by the BGS**
- **Mercia Mudstones were identified for Nirex as potentially favourable geologically (equivalent of White Paper Stage 4) but no MMG Site was brought forward into the final lists (equivalent of Stage 5)**
- **we concur with rejection as MMG there not deep or thick enough, and has conductive horizons**
- **overall prospects for Permo-Trias basin east of Silloth not good, as below MMG:-**
  - **well faulted in deeper strata**
  - **SSG from base of MMG down to about 1km very permeable**
  - **possible rock salts below that too deep for repository**
  - **in any event, further permeable sediments below that**
  - **also area of unusually high heat flow at depth.**

Questions, discussion and key issues

Due to constraints on time, the following key points in section 5 were focused on.

Likelihood of a suitable site in West Cumbria

The presenters emphasised that, in their view, the probability of finding a site in West Cumbria is low (second bullet point of 5.1).

They reiterated their view that the coastal strip from Whitehaven down to Seascale/Silecroft is very unlikely to be suitable because it is almost inevitable that it has

a similar structure to the Longlands Farm area. They also noted the point made in 5.5 above that, if there is going to be a chance of finding somewhere, in their view it would be in the Solway area near Silloth, however it is still not that promising. Also the Eskdale/Ennerdale granites cannot at this stage be entirely ruled out.

Jeremy Dearlove asked a question relating to the work of Chapman *et al* (1986) and whether a number of specific geological environments for ILW were identified prior to the Nirex investigations. In reply Mr Knipe considered that the work by Chapman *et al* in the 1980s regarding generically preferred geological environments is still valid and a good guide to focusing the search for suitable sites.

In response to a further question about how the Longlands Farm area might be viewed if a Nirex-style Inquiry were re-run today, Mr Knipe suggested it was unlikely that this site would even be under consideration: he noted that during the previous selection process it [Sellafield B] was never considered favourably against the generic geological criteria but was introduced at a much later stage.

A Steering Group member agreed that the reasons for Longlands Farm being selected by Nirex were not clear, however there are some assurances in the current MRWS process that, if the process goes ahead in West Cumbria, at least this time it will be done in an open and transparent way, and will be available for peer review.

With regards to suitable geology, it was reiterated by the presenters that the basic principles are that the rock mass needs to be sufficiently simple that it can be characterised, and, for radioactive reasons, the water flowing through it needs long flow-paths to promote decay and allow absorption by minerals and blind alleys. The rock mass could be more complicated geologically if it is flat lying and has low groundwater flow in any direction.

Question regarding statements made about the whole geology of West Cumbria
The presenters were asked if they had ever said that the whole of the geology of West Cumbria was unsuitable. They confirmed that they had never said this.

Peer reviewers
The presenters were asked what a genuine peer reviewer looks like. In response they stated that it is somebody who has got expertise in the same field but is not in any way chosen by the promoters of the project or any of their associates. Reference was also made to the reviewer having no close links with anybody involved, and no vested interest in the outcome. They further suggested that an obvious way to seek peer reviewers is to go through the editor of the most relevant scientific journal to pick the experts in that field.

They also suggested that the NDA should be asked to provide funds to a community that wishes to seek such advice.

Question regarding the Government and the NDA's commitment to continuing investigations in West Cumbria
Given their view that the likelihood of eventually identifying a promising site in West Cumbria is low, the presenters were asked why they think that the NDA, the regulators, CoRWM and the Government see no reason not to proceed to the next stage of the process.

Their response was that the Government is setting a very low threshold. They acknowledged that the Government has gone down the volunteer community route because there have been problems worldwide in getting communities to accept a repository, and they made reference to the fact that the Scandinavians have made the most progress and have managed to combine favourable sites with accepting communities. They can therefore see why somebody writing the White Paper would go down that route, however, identifying the community first before doing everything else brings its own problems and is easier in theory than in practice.

They also suggested that the NDA are of course adhering strictly to the Stages in the White Paper as the Policy requires, but that the NDA do seem to believe that some parts of West Cumbria show some promise.

Commitment to expenditure
A discussion was held about the costs of moving to the next stage. It was noted by the presenters that a large amount of public expenditure could be committed by crossing over such a low threshold and there was a reminder that a huge amount of money was spent on one small site by Nirex.

Jeremy Dearlove noted that the outcomes of a geological-based desk study would have to be very promising to spend tens of millions of pounds on site investigations.

The presenters reiterated that the BGS have already carried out a study on a UK wide scale. There was also a reminder that the BGS is the only body that can do such a study.

Overall messages
A Steering Group member expressed concerns regarding the apparent overall message/conclusion of the presenters that their view is that if West Cumbria were to enter the Government's siting process it would almost certainly end in failure.

The presenters emphasised that they are trying to put the record straight that, as far as they are concerned, what they said and did at the time of the Inquiry has never been challenged in detail by third parties. It was not challenged by Nirex itself until a change in the last decade there was a reversion back to the over-optimistic approach which Nirex had originally taken. Fears were also expressed that the NDA are now continuing Nirex's over-optimism.

The presenters reiterated that, no matter what the economic and other advantages to the area, the site must convincingly be shown to be safe, and the hydrogeological and geological setting is probably the most important factor.

Need for an RCF
The presenters were asked whether an RCF would be needed if West Cumbria continues in the process. In response they stated that an RCF would be needed, as the geology of West Cumbria is so complex. They went on to say that the only circumstances in which one might not be needed is if very thick rock salt is found and the knowledge of rock salt in e.g. Germany is exportable, but that for any other rock type an underground rock laboratory/RCF would be needed.

Jeremy Dearlove stated his view that an RCF would still be needed even in rock salt.

Thank you and request to keep communication channels open
The presenters were thanked for their input.

It was noted that West Cumbria is far from deciding what will happen, but the Partnership would like to keep this channel of communication open, as it would be very valuable to have this source of information between now and the end of the year.

Steering Group meeting

1. Actions & Minutes – Doc 262

	7th February 2011 – All actions completed or superceded apart from 3.9. Notes adopted.
3.9	The brief for the NDA has been clarified and this is now underway.

2. Updates

2.1 Opinion survey

The interviews are on schedule with approximately 1,400 of the planned 3,000 – 4,000 interviews having taken place. The headline results will be ready for the 22nd May Partnership meeting or just before.

2.2 Consultation progress

A large amount of responses came in during the last week of the consultation. There have been approximately 1300 responses and a final count is underway.

It was confirmed that if the funding from DECC comes through (see item 3), an early draft summary of views and the first set of verbatim responses will be circulated to the Partnership before the end of the week, with the next set of verbatim responses to be circulated on 11th April. If the funding does not come through and there is a pause in the process the information will not be sent out.

2.3 Cumbria Leaders Board

The planned presentation to the Cumbria Leaders Board on 23rd March was cancelled.

2.4 NDA Issues Register Meeting on 26th March

The meeting continued discussions about how the NDA publishes its documents (e.g. research programmes and safety cases), including the need for all documents to be housed in a single accessible place, and in a way that Partnership members, other stakeholders and non-technical people can have genuine sight of the NDA's information.

Feedback was given to the NDA that they need to do more work on linking scientific and technical work to socio-political aspects, and the need to address the scientific/technical balance. The second version of the NDA's issues register is due to be published shortly and it is hoped that this version will better articulate how their work relates to things going on around them.

The NDA has a new chief executive who has a long experience of working in West Cumbria. It was suggested that it might be worth talking to him directly about the above issues.

2.5 Webcast on 6th March

The webcast went well with around 50 questions submitted online, around half of which were answered during the programme. The mix of people on the panel worked well, including Pete Wilkinson providing critical challenge of both Government policy and the Partnership's work.

3. Finance

DECC has now agreed the additional funding for 2011/12.

However the engagement package for 2012/13 has not yet been agreed. DECC made an offer which falls short of the Partnership's request which is the minimum estimate of what is needed to take the Partnership through to the end of the current programme of work, including assisting the three authorities to go through what they need to do, and the appropriate governance to achieve a decision.

The Steering Group discussed whether they should hold out for the full amount, or accept the current offer and delay any difficult negotiations until later in the year. There were different views about the best way forward with some feeling more strongly than others that it was important to hold out for the full amount and just accept that this may lead to a pause in the process.

Concerns about the impact that a pause in the process would have on the local community were discussed, especially given the current timing of the Ipsos MORI opinion survey. The undermining of trust and confidence in the Government that would inevitably result was also highlighted.

After a lengthy discussion the Steering Group agreed that they are not prepared to accept DECC's offer and that the Partnership wants DECC to commit to the full budget submitted. It was also agreed that it should be emphasised to DECC that this process of negotiating 'to the brink' should not happen again and that conditions would need to be put in place with regard to that.

If DECC do not agree, the process is effectively paused. Copeland BC are not willing or able to spend at risk before a decision comes through.

The need for a deadline for a decision from DECC was emphasised and the implications on the forward programme of activity were discussed briefly.

Actions: Paul Walker to contact DECC to confirm the position of the Steering Group and request that the meeting with a senior civil servant offered by DECC should take place on 30th March.

Actions

	ACTION	WHO
Nirex Inquiry presentation/discussion		
	CALC to circulate correspondence from CoRWM when it is received.	**GR**
Agenda Item - Finance		
	Inform DECC of the Steering Group's decision regarding the engagement package	**PW/TK**
Other agenda items		
	All other agenda items including legal advice and an update on post-PSE communications, are carried forward to the next Steering Group meeting on 24th April 2012.	