

Response form

Please use this form to respond to this call for evidence on Managing Radioactive Waste Safely: Review of the Siting Process for a Geological Disposal Facility.

The closing date for the submission of responses is **10 June 2013**.

Responses can be returned by email (preferable) or post.

Email address: radioactivewaste@decc.gsi.gov.uk

Or by post to: The Managing Radioactive Waste Safely team
Department of Energy and Climate Change
Room M07
55 Whitehall
London
SW1A 2EY

Name	REDACTED REDACTED
Organisation / Company	None
Organisation Size (no. of employees)	None
Organisation Type	N/A
Job Title	REDACTED
Department	
Address	REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED
Email	REDACTED REDACTED
Telephone	REDACTED
Fax	

Would you like to be kept informed of developments with the MRWS programme?	Yes
Would you like your response to be kept	No

confidential? If yes please give a reason

The Government is interested in your views on the geological disposal facility site selection process outlined in the 2008 Managing Radioactive Waste Safely (MRWS) White Paper. To assist us you may wish to consider the following issues in your response:

- What aspects of the site selection process in the MRWS White Paper do you think could be improved and how?
- What do you think could be done to attract communities into the MRWS site selection process?
- What information do you think would help communities engage with the MRWS site selection process?

Introduction:-

Having been involved in the opposition to the failed attempt by UK NIREX to gain permission for a Rock Characterisation Facility in the mid 1990's at Longlands Farm (A Precursor to a geological Disposal Facility) I was horrified to discover in May 2011 yet another attempt to site a Nuclear Waste Disposal Facility in West Cumbria.

The 1996 UK NIREX planning appeal failed at Longlands Farm primarily because of the complex geology found in West Cumbria. Indeed and after several years of investigation and by its own admission, UK NIREX were between 90-99% deficient in their understanding of the complex hydrogeology i.e. The geological transportation mechanisms by which harmful radionuclides could find their way into the biosphere.

My understanding as to how West Cumbria came to be selected as the only candidate site in the 1990's arises from a statement made by the then Sec of State for the Environment (The late Nicholas Ridley)... "...It would be better to look in those places which have a measure of support for the civil nuclear Industry" – Hansard 21st March 1985. In essence, find an inherently surrounding acquiescent population. This, after years of failed attempts sometimes with violent public opposition, in the early to mid 1980's to investigate sites, for the most part along the eastern seaboard of the UK (Killingholme and Elstow) where low relief and Oxford Clay predominate, indicating predictable hydrogeology. Presumably, this was the reasoning as to why these areas of the UK were initially investigated despite vehement local opposition at the time.

Currently, government is engaging with the private sector to commission new commercial reactors. This is interesting given the conclusions of the 1976 Sir Brian Flowers Report which recommended no new build be undertaken until the problem of what to do with legacy radioactive waste is resolved. Thirty Seven years have passed and the UK no nearer to the resolution of how to facilitate a permanent, (Preferred Geological Disposal) intergenerational solution for its legacy nuclear waste. It is appreciated that since Flowers, overriding factors such as; base load electricity security and importantly our current understanding of human induced climate change through the burning of fossil fuels resulting in ever higher concentrations of atmospheric CO2 may well have led to the belief within government that priorities have to be re ordered. Although I do not live in the Solway Plain I consider myself after 41 years resident in Cumbria to be a "Cumbrian" I am a member of REDACTED have therefore been party to the consultation response it has submitted. I wholeheartedly endorse all the aspects of

REDACTED submission. As detailed in REDACTED submission the aspect of “grooming” should give any right thinking individual cause for alarm.

Again and as mentioned in the REDACTED submission and exposed by Emeritus Professor David Smythe one has to call into question the role of the BGS concerning the sudden appearance of the Solway Plain as an area for potential investigation when it had previously been ruled out. For any professional body to be manipulated to the extent that its previous conclusions are changed is most worrying and will not bode well for participation in any further MRWS process elsewhere.

I also wish to bring to the attention of the reader four further items which came to light over the course of stage 3 which are of equal significance and of similar concern.

- 1) The late consultation submissions received by MRWS in two large envelopes totalling some 122 responses all with just a, “Yes I agree,” to all the statements and leading questions (some misleading) in the consultation document. I exposed this in the Whitehaven News at the time and a response was forthcoming in the following week’s publication from the leader of Copeland Council, who at the time was also Chair Person of MRWS Cumbria. The response was in essence that people did not need to know the detail of what they were agreeing about. – I did not consider it worthwhile to pursue the argument further but an obvious conclusion can be drawn. Do Turkeys vote for Christmas? In any event I likened it to how Robert Mugabe has continued electoral success in Zimbabwe.
- 2) It was made known to me by a retired legal professional that an FOI request had been made concerning the nature of a meeting between Lord Markland, Jamie Reed MP, executives and Councillors from both Copeland and Allerdale Councils and executives from the nuclear industry. This meeting was at the Trout Hotel in Cockermouth about the same time an expression of interest was forthcoming. I do not have the details to hand so cannot be precise on the date, but it is sufficient to say I have never seen a more heavily redacted document. The only conclusion I/anyone could draw from it was that Jamie Reed was a vegetarian.
- 3) During the run up to the final vote on the 30th Jan 2013 I decided to join twitter and managed to engage with many “pro” stage 4 individuals. Many of whom I still communicate with now. It soon became apparent some were employed on the Sellafield site. An exchange between two employees was of significance. Essentially, one explained that he was not in favour of proceeding for reasons of poor geology. The response from the other was to suggest that perhaps this employment was not for him and therefore he should know what to do. I had thought the era of workplace intimidation ended in the mid 1980’s but manifestly, it is alive and well. I was so outraged by the exchange that I copied it and sent to my County Council leader who while not making reference to it directly, nevertheless explained in his rejection speech of the 30th Jan, made the comment that.. “Not all Sellafield workers were in favour of proceeding”. I do not know, nor have I ventured to ask if this knowledge was relevant to what he had to say, but the fact is; he said it.
- 4) During stage 3 I wrote to both the Director of Children’s services for Cumbria and to Robert Piccard who at the time was chair of CoWRM to express my concern that MRWS Cumbria were engaged in an “educational” exercise to inform Cumbrian schoolchildren of why a repository was necessary and that other Countries had communities who had “volunteered” Most importantly no

countervailing argument was ever forthcoming by MRWS Cumbria to our schoolchildren concerning the simple fact that all other Nation States had firstly screened out areas of poor geology before asking for volunteer communities. My response from Cumbria's director of children's services was a poor attempt to dissemble. Robert Piccard had the good sense to decline to comment on this. I thought matters of ethics concerning nuclear waste disposal were CoWRM's remit?

It should be clear to anyone that an IPSOS MORI poll does not and cannot ever trump the will of the electorate as expressed by the overwhelming expression of rejection to proceed to stage 4 by the votes taken by Parish Councils. In any event and again underscored by the REDACTED response, the one valuable metric the IPSOS MORI poll discovered was that 80% of those questioned knew little or nothing about the proposal. The only conclusion anyone can draw from such a result is that the consultation exercise had failed.

It is both fatuous and ethically deficient to put the argument, as some have done, to assert that "West" Cumbria is best placed to take this waste because the waste is already here. Two points on this. No one knew when Calder Hall – Winscale – Sellafield was built for atomic weapons purposes the underlying geology would be of significance. Secondly, the transportation of nuclear materials is safe and well regulated. Waste, for the most part in the form of spent fuel was safely transported to Sellafield so it will be straightforward to transport "conditioned" waste to elsewhere.

What aspects of the site selection process in the MRWS White Paper do you think could be improved and how?

Any process which seeks to deal with the vexed question of Radioactive Waste with the intent of finding a solution by way of Geological disposal has to take into account the extreme longevity of the waste (30,000 generations) and, crucially the containment of waste from the biosphere. Simple logic demands such a process be grounded on best science and sound ethical principles. – The clue, if one were needed, is in the name "Geological". It is simply NOT good enough to firstly ask for "volunteer communities" before proceeding to embark upon detailed geological studies of ANY area that may wish to put itself forward as a willing host community. The more so when it is known that a community is already known to have grossly sub optimal geology and is economically nuclear dependant. – Such an approach is ethically bankrupt and has directly led to the current failure of West Cumbria going forward. Simply put, the cart has been placed before the horse. Any new white paper needs to reflect this.

In these straightened times it is also worth reminding ourselves just how much of the tax payers money was expended by UK NIREX at Longlands Farm in the 1990's - £400M - If the same exercise were undertaken today that would equate to well over £875M. Added to this the statement by the Cumbria MRWS employed consultant geologist Dr Jeremy Dearlove that the prospect of finding any suitable rock volume within West Cumbria was low. Cumbria and in particular, West Cumbria with its complex geology and high relief is one of the most studied geological environments on the whole planet.

Conclusions.

- If the UK is set on geological disposal of radioactive waste as its preferred option (and I do not currently believe this may be a final option) then it must do as other Nation States have done. Screen out regions which are known to have sub optimal geology and rule them out for good. Only when a map is produced of potentially “optimal” geology in a regional context should any process concerning community participation begin.
- Call a spade a spade. In reality no community is going to “volunteer” to take the Nation’s Nuclear Waste without firstly having the confidence it will be safe and secondly, being paid in some way to do so. I find the use of the term “Volunteer Community” misleading. What in effect we have is a “Community Contract” Even with the knowledge of optimal geology (if produced by the BGS) a community must be able to have such results internationally peer reviewed. There has to a consensus within the professional geological community that areas identified within a regional setting have sound geology.
- Throughout stage 3 no attempt by DECC was ever made to quantify a community benefits package save that it would be “Transformational”. Perhaps and with the knowledge of West Cumbria’s suboptimal geology and economic nuclear dependency offering itself as a candidate was, with hindsight, a good thing. I believe that in order to gain the interest/acceptance of communities where optimal geology exists the money will have to be on the table and that was a point not lost on Eddie Martin in his rejection speech of 30th Jan 2013.
- I have been particularly drawn to the arguments put forward by John Wilson from Keswick and others who have pointed out the stupidity of potentially siting a GDF under or adjacent to the Lake District National Park for the reasons he and others have given which are far too many to detail here. – Please refer to them. It should be very clear that no attempt to site a GDF should proceed within or adjacent to a National Park. I was very struck by the interests from overseas reporters (Japan and Australia) who highlighted the stupidity of this. Cumbria was in danger of being the object of international ridicule, which, had it occurred, could have irreversibly damaged its valuable tourism brand.

I have not commented here upon how the Cumbria MRWS process was effectively “usurped” by councillors (Two of whom chaired MRWS Cumbria at different points along the process) who were known to be supportive of proceeding to MRWS S4 in Cumbria. Others have described this very well. And, I have not as yet formed an opinion as to how any future committees should be constituted concerning community participation, but it is sufficient to say and for the reasons given above and by others Cumbria did not get it right. The consultation exercise failed:- everything else follows.

What do you think could be done to attract communities into the MRWS site selection Process?

- The first problem to be resolved is “what constitutes a community”. The Cumbria MRWS process exposed the stark differences between the largely urban areas such as Workington and Whitehaven where there was considerable support to proceed to stage 4 and rural communities such as Ennerdale and the Solway Plain where there was overwhelming opposition where it would be likely that any investigations and potentially construction would take place. Add to this the tourism town of Keswick where again very little support existed. Most

interestingly, all these areas have different geologies. If the suitability of regional geology is the starting point for a National search for a GDF then the one thing all communities within such a region will have in common is their geology.

- Unlike the MRWS Cumbria process, which to most observers appeared to be dominated by decision makers who were intent on proceeding to stage 4, any new process must from the outset have at its core principle; transparency. The issue of secrecy as to how someone may eventually vote to proceed further or not (predetermination) should not even arise if the “homework” has been done. In any event I do not believe the process in Cumbria with just a few executive councillors deciding, was right. With any environmentally controversial project differences of opinion will exist. – But and crucially, if a community within a region has expressed a will to proceed or not (by way of a vote) then the argument is won or lost, as is the case. If won, the community decides to participate. – That is not say those who hold the alternative and minority view should be “locked out” of any process going forward, rather they should be encouraged to participate and with appropriate funding as necessary. Going forward it becomes an issue of transparency, fairness and inclusivity. – The important thing is, the “community” has decided to participate.
- Given the government’s commitment to proceed with New Nuclear it must be the case that new build generators will have to pay for their waste treatment and disposal. The question as to how to place an economic value on legacy waste should not be that difficult. One way of doing this might be to place a value of £/Tbq. Since it is known how much legacy waste there is a simple calculation will give an answer. Variants concerning the radionuclide composition of the waste could also be used. The crucial thing here is to draw a distinction between legacy waste and waste arising from new build. – I shall explain my reasoning further below.
- If an optimal geological region is identified and, given legacy waste has an economic value then a good starting point exists to interest a community in participation. However and in order to effectively “sell” the concept to a community and just as importantly surrounding communities, much more detailed work on “who gets what” and over what time frame will need to be done and done well. The lesson from Cumbria won’t help here given the vastly different circumstances which existed and that no specific benefit package was ever put on the table.
- It should be stressed it is not just a question as who gets what and when, but also where within a region. I believe any calculation concerning distributions should be done both at the individual householder level and community level. e.g. A region, once identified could be “zoned” by area with areas nearer to a GDF getting more of the cake than those further away. For the purpose of explanation make the boundary of the area 50Km and within that, zones of 5Km. Perhaps householders within zone one might pay no council tax and receive a £500/yr payment (rising at the same pro rata value with energy increases) towards their energy costs for a period of 100 years. – Or such a period as is thought attractive. Further householders might all be offered free installation of solar or other renewables. Decreasing graduated discounts should be offered to householders up to zone 10.

- It would be an interesting exercise done in conjunction with the Royal Institute of Chartered Surveyors. It may well be the case that some areas within the community see rises in property values and some, perhaps nearer to the PRZ (Potential Repository Zone) see a fall. – A well thought out and fair mechanism will need to be agreed upon to compensate householders whose property has suffered a decline in value and a transparent mechanism will need to be agreed. I understand compensation packages are now being reassessed on the HS2 project.
- Community benefits generally. It will be the case that many communities where there exists optimal geology will have already identified infrastructure projects which will be of benefit to them. These should be sought out and funding provided from within the legacy waste budget. Decisions concerning which projects should be funded must come from within the local communities and would be best decided by Local Authorities/Elected representatives. However, I would add to any benefits package the funding of a community college with specific emphasis on energy, renewables and waste to degree level. – This could be done in conjunction with an established university and Sellafield.
- The controversial question of new build nuclear in its proposed design format leaves much to be desired. Other Nation States such as Germany have taken the decision not to proceed. Personally, I do not object to Nuclear Power but I do think not enough R&D effort has/is being placed on the potential for sub critical reactor designs which lead to less waste, don't have the possibility of catastrophic reactor core failure and offer the potential with other technologies such as small scale high energy particle accelerators to go a long way to solving the problem as to how some of the more long lived and bio-hazardous wastes could be consumed. The problem has always been one of investment in R&D by both governments and the private sector, the latter requiring visibility on returns on investment. (ROI)
- The reality of a GDF is that no decision to close it permanently will be made for probably 100 years. This timeframe offers a real prospect, with the right level of investment, that closure and final disposal may not arise. Just as examples of engineering and technology failures can be cited so too can their successes. Throughout history there have been many examples of pure research which have led to game changing technologies, new opportunities and relative prosperity. Nowhere has this been more evident than in the field of human DNA which took an initial expenditure of £1Bn and several years to be able to read the complete DNA code of one individual. A decade later, machines are now available which cost a fraction of the initial research machine and can produce results within just a few hours. A whole new industry on genetic medicine has sprung up offering the reality of designer drugs tailored to an individual's own DNA. – The driver for this innovation has been visibility on ROI. Governments, though legislation can, if they choose, set the financial conditions to drive innovation and new technologies. This is where an opportunity exists to drive innovation though incentives and disincentives and I believe it entirely relevant to the problem of Nuclear Waste.
- If a formula were constructed to place an economic value on wastes arising from

new build where, over time, the value of waste increased disproportionately with inflation then a financial incentive would arise to produce less waste or to treat it more effectively.

What information do you think would help communities engage with the MRWS process?

- Firstly, obtain the geological consensus. This was never done in Cumbria as the cart was before the horse. Do NOT put volunteerism before the Earth Science. Doing so will yield the same result. So..... “ Geologists and Earth Scientists agree that our region is safe for a Nuclear Waste Repository.....”.**
- As pointed out by Eddie Martin in his reasons for rejection no attempt was made by government to quantify what a benefits package would be. Before proceeding the NDA will have to agree with the treasury what the quantum of a benefits package (as that relates to legacy waste) will be. Bluntly, here is the money and we can't take it back!**
- Providing the preceding two issues have been addressed with transparently then a good starting point exists to engage with communities. Much work will have already been done to establish geological consensus and define the quantum of a benefits package. I think it VERY important to detail what householder benefits would be in any literature BEFORE expressions of interest BUT this should not be overplayed. People can and do work things out for themselves and there is simply no need to do a “double glazing sales pitch”**
- In addition to potential householder benefits outlined above, more thought should be given as to how householders may derive additional benefits which are “GREEN” and are interwoven at the community level. One example is transportation and the provision of electric charging points for electric vehicles which may attract a zero or much reduced recharging cost. Residents within the PRZ zone might also be offered some additional financial incentive to purchase zero emission vehicles. The point I seek to make is; there are many innovative ways to influence individuals which are all related (directly and indirectly) to low carbon which is one reason as to why government wants to proceed with nuclear new build.**
- I also think it important to engage at the individual/householder level. e.g. both direct mail to householders and a telephone number to which local enquiries can be taken.**

Finally, I wanted to draw to the attention of the reader the plight of West Cumbria which has for the past 50 years suffered a severe economic decline with many of its traditional industries having closed. Nuclear and its associated industries are for the most part the only game in town in West Cumbria. It saddens and angers me as a Cumbrian to understand there exist within my County areas of extreme child poverty which exist alongside great wealth. We are better than this. We have to provide the opportunities for our future generations to be well educated and prosper. What I can say is that West Cumbria (despite the increased current investment) receives well short of what it should do for shouldering the Nations burden of legacy nuclear waste.

On the matter of legacy waste, its treatment and current storage and as identified by the recent NAO report much more needs to be done concerning interim storage. This will

require yet more investment if the current population of West Cumbria and for that matter, much of Northern Britain is not to be exposed to “intolerable” risk. Clearly, the question of safe interim storage has to be addressed... not a day should be wasted!