

# Response to the DECC Consultation of the siting Process for a Geological Disposal Facility, 2013.

## Respondents:

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1. Do you agree that a test of public support should be taken before the representative authority loses the Right of Withdrawal? If so, what do you think would be the most appropriate means of testing public support, and when should it take place? If you do not agree with the need for such a test, please explain why.

It is clearly important for reasons of democratic validity to establish in some form the degree of public support for the construction of a GDF. Significant and challenging questions must be answered regarding such a process. Firstly, what constitutes the ‘public’ that is considered affected by the development of a GDF facility and thus the public that should be tested for its level of support? The revisions to the siting process identify District Councils as the preferred body for making a final decision as to whether to proceed with the development of a GDF. It might then be construed that this is the geographical limit for testing public opinion. This seems unduly restrictive. If the siting process is genuinely looking at all possible areas in the UK, rather than implicitly assuming that the process is returning to Copeland and Allerdale District Council locations, the site of the GDF may span different District Council boundaries, or potentially County lines. Furthermore, given that the development is a large and complex construction task, the ‘community’ that is affected by the development – including issues such as increased traffic volume, waste delivery and noise pollution to name a few – is likely to be wider than the limited scale of the District Council. The County Level is the minimum representative unit for defining what constitutes the affected community of a GDF rather than the smaller scale of the District Council. If there were a proposal to move the wastes to a site outside the Sellafield area then the affected communities would be substantially more extensive, and would include those lying along the transport routes from Sellafield to the proposed site. Despite the difficulties involved, defining the affected community or communities is therefore of high priority and may prove to be substantially wider than the population within limited District Council areas.

Another key consideration is to evaluate the best means of testing levels of public support. The idea of a ‘Referendum’ has been mentioned at several consultative events over the past few months. Given the multitude of issues which are by no means settled with regard to the GDF, a more deliberative decision-making approach - where judgements and preferences can be formed and altered through learning and reasoned debate - would be more appropriate. A referendum provides a crude measure of the preferences of a population. It does not, however, account for the intensity or reasoning behind these preferences. For an issue as complex as the GDF it is essential that there are sound understandings of rationalities on which different preferences are based. Whether or not the public in question can make an informed decision - balancing a range of issues related to a GDF - is entirely dependent on the level of engagement the public have with the range of issues under consideration. There are three general motivations for fostering such deliberation in decision making (Lehtonen and Kern 2009: 111-113): First, in normative terms, democratic legitimacy is essential (‘right thing to do in a democratic society’) and any decision taken must be acceptable to the public. Second, in

instrumental terms, public deliberation might help foster acceptance and make decisions easier to implement. Third, in substantive terms, deliberation might help the ‘right’ decisions to be taken, e.g. get input from a broader range of views, knowledge bases, sets of assumptions. Criteria for good deliberation include: neutrality, breadth, transparency, precaution, openness, diversity, inclusion and commitment.

The presence of an independent body would be necessary to evaluate whether such engagement and deliberation with the varied issues of the GDF had been explored sufficiently. A danger, for example, is that the ‘learning phase’ might be dominated by a focus on community benefit packages and the value of the development for the preservation of local jobs at the expense of an equal exploration of the potential risks and uncertainties of siting a GDF. A deliberative process, followed by decisions being made through the conventional means of representative democracy, is preferable to the idea of a referendum.

2. Do you agree with the proposed amendments to decision-making within the MRWS siting process? If not, how would you modify the proposed phased approach, or, alternatively, what different approach would you propose? Please explain your reasoning.

It is positive to see that some lessons from the previous experience have been taken on board. The proposals for a ‘phased’ approach, including ‘national awareness raising’, as well as ‘learning’ and ‘focussing’ phases, mean that in theory, communities will have the opportunity to engage fully with issues before making a decision. However, to ensure that ‘national awareness raising’ and the ‘learning process’ are unbiased and rigorous an independent, extra-governmental body is desirable, not only to observe and scrutinise these processes, but also to function as a resource of expertise separate from government. CoRWM has in the past recommended the formation of such a body to play a role in geological analysis of a GDF (CoRWM, 2009) and is in practice – given suitably amended terms of reference, wider membership and a bigger budget - well placed to be such a body. Such an organisation would be a beneficial presence throughout the new phased siting process, serving to enhance knowledge production as well as bolster levels of trust which play a crucial role in determining public acceptance of radioactive waste management solutions (Flynn et al 1992; Katsuya, 2002; Summers & Hine, 1997). In this regard it is important to note that the UK public are most trusting of radioactive waste management information that is provided by non-governmental organisations and independent scientists (Special Eurobarometer 297, 2008) rather than governmental organisations.

The development of community trust in the decision-making process is critical. While CoRWM or an equivalent independent body could constitute an important component of the process of building trust, there needs to be a wider process of trust-building. Trust is impossible to develop when relevant actors are essentially invisible. At present the regulators (ONR and the EA) are virtually invisible to the public and concentrate on the technical issues they have to manage – though ONR has recently made serious efforts to have dialogue with NGOs. The potential developer (RWMD within NDA) is also largely invisible, despite its own limited efforts at engagement. A necessary though not sufficient condition for the building of trust with communities is that, in addition to the availability of an ‘honest broker’ (CoRWM or equivalent), the regulators and developer become much more visible. To work well, this visibility needs to include a good deal of face to face contact with communities, as experience both in Sweden and in a more limited context the first phase of CoRWM itself both demonstrate. Such contact is expensive, and requires skills beyond those currently possessed by any of the above-mentioned organisations

The ‘national awareness raising’ stage should not follow the example set by the NPS consultations. Whilst Government considered the NPS consultations to be successful ‘streamlined’ events, many members of the public and NGOs who attended the events in Bristol, Manchester, and London, felt that they were in fact a “highly elaborate exercise to achieve premature legitimation for a predetermined policy” ([NCG, 2010](#)) rather than viewing them as constructive two-way dialogue. New build was insulated from subsequent challenge through overriding ‘National Need’. However, given the veto power of local communities over the siting of a GDF, this is not possible with regard to nuclear waste. Thus, if information comes to light at a later date that communities feel should have been debated at the national stage, anger - and abandonment of the siting process - are the likely results. Shortcuts taken at an early stage may well delay, disrupt or destroy the process at a later stage.

The alteration of the final decision-making powers and right-to-withdraw from County and District Councils to solely District Councils can be perceived as a simple switch of political scales of decision making in order to get a positive decision for the GDF which was not reached last time. This is democratically problematic. As you will be aware, this has already caused significant concerns and received substantial media attention. The Cumbrian local newspaper, The News and Star argued that the County Council is being ‘bypassed’ ([News and Star, 2013](#)). The ‘Cumbria Trust’ has already been established to challenge this move, in the view that the exclusion of the County Council from the final decision is ‘deeply undemocratic’ ([BBC News, 2013a](#)). Stewart Young, the leader of the authority has stated that "It looks as though the government didn't like that decision and so they are inventing a new process that will exclude that level of [county] council" ([BBC News, 2013b](#)). DECC is fully aware of such critiques, but they are being repeated here to emphasise the point that - given the “prominent role” that the County Council is supposed to have in the siting process through a “consultative partnership” (DECC, 2013: 27), the negativity already generated by the proposed shift

to the level of District Council does not bode well for a successful and constructive consultative partnership once the process begins (especially if the siting process once more returns to Cumbria). At the same time, it could also be argued that communities outside of Cumbria are now less likely to come forward, as it could be perceived that cash-strapped and understaffed District Councils may have to take on the substantial work entailed in taking part in the GDF siting process without the greater resources of the County Council. Expecting District Councils to have the capacity to engage properly with an area of high complexity and scientific controversy with what is now “nationally significant infrastructure” is problematic. See also response to question 5 below.

3. Do you agree with the revised roles in the siting process set out in the White Paper? If not what alternative approach do you propose and why?

A potential problem with the revised role of Government in which it acts as an information provider earlier on in the process, is that Governments are generally mistrusted by the public, and thus such a process of ‘awareness raising’ and information sharing may be viewed as biased if not subject to independent scrutiny. Our answer to Question 2 above stresses the need for an independent ‘honest broker’ to engage with, and provide advice to local communities as an essential ingredient of the siting process. NGO groups also need to be fully involved in the engagement and consultation process. In this respect the approach taken in Sweden with regards to NGO involvement in GDF siting has been successful - NGO’s can apply for funds to enable them to fully engage with the consultation process where lack of resources might have represented a barrier. Such an approach was previously been taken in the UK with the BNFL dialogues in the late 1990’s.

4. Do you agree with this proposed approach to assessing geological suitability as part of the MRWS siting process? If not, what alternative approach would you propose and why?

The amendment to “...provide a greater level of geological understanding much earlier in the siting process” is welcome. However, ‘National screening’ of ‘most suitable’ sites, or an ‘unsuitability screening’ have been ruled out. In previous rounds of consultation geological investigation at the outset has been a popular notion amongst stakeholders. Through discussions with DECC and members of the Geological Society we understand that there are significant challenges in assessing geology at the national level in a sufficiently detailed way. However, as covered in the Revised National Policy Statement on nuclear power, Annex II (DECC, 2011:14), in 2006 the British Geological Survey stated that “over 30% of the UK has suitable geology for siting a deep geological

disposal facility” (NIREX and British Geological Survey 2006). Furthermore, CoRWM found that “there is high confidence in the scientific community that there are areas of the UK where the geology and hydrogeology at 200 metres or more below ground will be stable for a million years and more into the future” (CoRWM, 2006: 106).

It seems surprising that whilst it has been identified that “30% of the UK has suitable geology” and there is “high confidence in the scientific community that there are areas where the geology and hydrogeology” are suitable, there is still a reluctance to consider pre-screening to identify the “most suitable” areas to site a GDF. A starting point could be to identify the 30% of the UK that has suitable geology, and then continue the process from those listed potential sites. This could be a potentially worthwhile approach for two reasons. Firstly, it may actually be technically feasible: In the 1980’s Nirex originally identified 500 sites for a geological repository and after reviews of land ownership selected 39 as likely to perform best due to their hydrogeology (Folger, 1995) and in Japan (although a different case due to risks of seismic activity), they are developing an approach where the most suitable sites are identified ([Asahi, 2013](#)). The Japanese authorities plan to “list candidate disposal sites” publishing a map showing “100 suitable locations” nationally. Secondly, pre-screening would be of value in promoting transparency and trust. The perception that the priority in site selection is to avoid public opposition rather than selecting a site based on the best geological information is a potentially damaging one for the entire process. Credibility of the siting process could be increased if it could be shown that a ‘preferable’ rather than a ‘sufficiently good’ site was chosen. As the GDF siting process is being repeated, considering issues of overall geology at the outset would increase credibility and prevent the perception that the previous process is simply being repeated with amendments which will ensure a GDF site can be realised.

We understand that this is a highly complex issue, and that there may well be reasons why detailed pre-screening cannot be achieved. If this is the case however, detailed reasoning and explanation must be given as to why National screening is not possible to avoid the potential negative assumptions mentioned above. An independent body such as CoRWM could greatly assist with this process. It could observe and scrutinize this initial stage, fully interrogating the question of whether starting with the geology, rather than volunteerism, would be possible from a practical and financial perspective.

5. Do you agree with the proposed approach to planning for a GDF? If not, what alternative approach would you propose and why?

The government is bringing the GDF under the framework of the Planning Act 2008 to designate the project as “Nationally Significant”. The planning application will be judged by the Planning Inspectorate who will make a recommendation to the Secretary of State to make the final decision.

The Planning Act is the same instrument that was used to facilitate new build, and at the Hinkley C development there was substantial criticism from members of the public and Councils as some stakeholders felt that the development was being steamrolled through and was pre-determined. The proposal for the site selection of a GDF is very different and contains the Right to Withdraw, and the community must make a decision before proceeding to the development stage. This is in stark contrast to new build, where local decision-making was ‘trumped’ by the National framework. However, it may be perceived that placing the GDF under the remit of the Planning Act represents a process of centralisation and an attempt to bypass the County Council who were responsible for the cessation of the previous siting attempt. Therefore, important dialogue concerning the role of the Planning Act and how it ‘fits’ with the volunteerism approach is needed to avoid such perceptions.

As previously mentioned however, there is a tension between designating something as ‘Nationally Significant’ whilst simultaneously placing final decision making powers at a lower level of the District Council, which possesses fewer resources to scrutinise such a development. Given that local government will have a veto in preventing the development, it can be questioned whether it is appropriate to change the framework for the GDF, if a ‘right to withdraw’ remains, as the ‘streamlining’ functions of the Planning Act seem incompatible with such a right. Undoubtedly, the rationale for this change will be questioned. The centralising process of the NPS, combined with the move to shift decision making to the District Council, are likely to be seen as attempts to bypass opposition. Elevating the GDF to the status of nationally significant infrastructure while downgrading the decision process to the level of the District Council leaves a very large political gap. The District Council is a slender body on which to rest a power of veto or approval for so momentous a project. Clear communication of the reasoning behind the changes is highly desirable.

6. Do you agree with this clarification of the inventory for geological disposal – and how this will be communicated with the volunteer host community? If not, what alternative approach would you consider and why?

It is difficult for communities to engage fully with the inventory due to the fact that its nature and extent are deeply uncertain for several reasons. A major concern is the uncertainty surrounding plutonium. The government states that it is currently not classified as waste. This is because of the unwarranted assumption in the document that the material will be reused in the “..manufacture of mixed-oxide (MOX) for use in reactors”. This appears to pre-judge the outcome of a separate and yet unresolved policy issue concerning the fate of separated plutonium. The current Government ‘preference’ for MOX is not yet a decision and MOX in any event would be a problematic choice.

First, which reactors will use MOX is far from clear. The notably unsuccessful MOX plant at Sellafield has closed. Mark Higson, CEO of the Office for Nuclear Development (OND) recently told the Public Accounts Committee that MOX could be used in “power stations yet to be built” ([BBC News, 2013c](#)). However, EDF, the main stakeholder in the UK’s ‘nuclear renaissance’ immediately refuted Higson’s claims, stating “We have not used MOX in any of our stations and have no plans to do so in the future in our existing stations or new nuclear stations.” (ibid) Such a discrepancy between the government’s ‘preferred solution’ and the views of the main stakeholder in the UK’s new nuclear programme suggests plans for creating new MOX may not be straight forward. The countries currently using MOX are Belgium, France, Germany, Japan, and Switzerland and export of MOX has occurred on a limited scale in the past. But all these countries except France and Japan are phasing out nuclear power. It may well be that Japan does the same. Therefore, the MOX option seems at best beset with uncertainties. It is a positive move that the government seeks to include in the baseline inventory “...all potential waste types so that potential communities get the most complete possible picture of the inventory for disposal at an early stage”. However the nature and extent of ‘potential wastes’ must be subject to thorough examination and deliberation with the concerned public, and not skirted over because of the apparent MOX solution.

CoRWM (2006: 13) made its view clear that “...the political and ethical issues raised by the creation of more wastes are quite different from those relating to committed and, therefore, unavoidable wastes”. This is a view that has been misrepresented in previous policy papers, and future waste is being included in the inventory as if it is of equal status to legacy waste. CoRWM’s recommendations on geological disposal related to *legacy* waste. The amount of waste from a future new build programme is extremely uncertain which again makes precise judgements on matters of inventory difficult. A maximum amount of new build waste from 16GW of new nuclear power is a welcome clarification. However, other scenarios should be explored, including an inventory that excludes new build waste. Communities should be able to question inventory issues and to this end, the fact that it is not necessary to host new build waste (as it is not necessary that new nuclear reactors have to be built) should be considered a legitimate line of enquiry. At the moment, entirely excluding from consideration cessation of waste production as a future radioactive waste management option, represents an inflexible approach to matters of inventory.

It is logical for prospective policy to extend attention beyond existing radioactive waste alone to include consideration of future arisings. And it is equally logical to ask not only what might be the best available technology, but also whether the best that is achievable is actually satisfactory. In the face of this latter criterion, it remains plausible that the most reasonable radioactive waste management option might quite readily be seen to be the avoidance of producing these materials in the first place. That such a conclusion is typically excluded from consideration in formal UK policy procedures in this area, may be seen not only as irrational, but as a significant partisan bias in

radioactive waste management in favour of the industry responsible for producing these intractable wastes, and disfavoured those alternative energy production infrastructures that do not produce them. We therefore argue that a clearer distinction between legacy and new nuclear waste should be maintained and that new waste management considerations should include the possibility of avoiding production of such wastes.

7. Do you endorse the proposed approach on community benefits associated with a GDF? If not, what alternative approach would you propose and why?

The issue of community benefits packages is complex which is reflected in the various criticisms that have been made concerning this issue previously. On the one hand, it has been argued that benefits came too late in the process, and that given the service the communities were providing for the country, benefits should be released at an earlier stage. On the other hand, there has been concern that benefits packages may function as a form of ‘community bribe’, and it is for this reason that issues pertaining to community benefits cannot be separated from issues surrounding communication and transparency on the part of government. DECC has acknowledged “...the need for greater clarity about the purpose, amount, recipient bodies, delivery mechanism and timing of community benefits” (DECC, 2013: 52). This is to be welcomed and will assist in reducing the suspicion that benefits are being paid to facilitate a decision that satisfies government. As noted in the consultation document, “community benefits are now applied in relation to a range of energy sector infrastructure”. Given that the Planning Act is now being implemented for a range of projects, then developments taking place within that framework – for example, planning for Hinkley C - may be considered the obvious starting point (given it is nuclear related) in any consideration of how to implement community benefits, and facilitate communication around community benefits packages. However, the process was far from smooth. There may be a contradiction between the deliberative approach recommended in previous questions and community benefits. Many were displeased at the focus on community benefits at the expense of other issues related to Hinkley point which were not examined, for example the contentious issue of the ‘interim storage’ of waste at the Hinkley site. The point here, is that earlier deployments of community benefits, cannot be seen as any kind of replacement for a thorough deliberative process concerning all of the substantive issues related to the hosting of a GDF facility, or as a means of enabling greater ‘efficiency’ or ‘timeliness’ to the GDF process. Rather, it must function alongside a thorough examination of all issues related to a GDF, with alternative economic plans for Cumbria being considered which avoid community benefits and other ‘benefits’ of hosting a GDF, appearing as the only alternative to local unemployment and a stagnant economy.

8. Do you agree with the proposed approach to addressing potential socio-economic and environmental effects that might come from hosting a GDF? If not, what alternative approach would you propose and why?

For potential environmental effects to be fully examined it is essential to consider the post-closure phase. Plans for post-safety closure and monitoring are currently insufficiently considered and need to be elaborated in detail in the knowledge sharing phase so that communities are able to evaluate the full impacts of hosting a GDF facility. The point at which post closure monitoring will no longer be carried out should be considered carefully. Establishing plans to monitor the site and local area for elevated radiation levels arising from the GDF for several hundred years or more into the future would help to increase the actual as well as perceived safety of the repository. There will of course be significant financial and practical considerations which will need to be addressed early in the process if monitoring following closure is to be carried out on such extended timescales.

The fact that socio-economic and environmental impacts are to be considered earlier on in the siting process is welcome, however rather than focussing on impacts alone, alternative plans for a local area without a GDF must also be investigated. There should be an examination, for example, of alternative future socio-economic growth plans, in order to facilitate a balanced examination of the potential benefit of hosting the GDF, rather than communities feeling that it is the only option available for future prosperity. Furthermore, the perceived impacts of the GDF in socio-economic and environmental terms, are in danger of being obscure by the fact that the timescales through which communities are being asked to judge the plans may be thrown out of kilter by the staggered UK renaissance. The original government plans for new build was 16GW by 2025 however these timescales will not now be met. Since the target is to decarbonize by 2050, it could follow that new nuclear capacity could still be being built in the late 2030's and 2040's. Given that it is thought that new power stations can operate for 60 years, and given that new waste produced from the new power stations is likely to need to cool for decades before it is moved, it could well be that the facility has to stay open well beyond 2150. As such the environmental impact of the facility needs to be evaluated with consideration to the potential knock on effect of the facility being active for these extended timescales. Furthermore for communities to make an informed decision regarding participation in the process it is vitally important that the factors outlined above - which might ultimately delay the final closure of the repository - are made plain.

## References

- Asahi, Asia and Japan Watch (2013) 'Government changes tack on finding disposal site for radioactive waste' [http://ajw.asahi.com/article/behind\\_news/politics/AJ201311200060](http://ajw.asahi.com/article/behind_news/politics/AJ201311200060)
- BBC News (2013a) 'Cumbria Trust created to Fight nuclear waste consultation' *BBC News* [Online] Available at: <http://www.bbc.co.uk/news/uk-england-cumbria-24744794>
- BBC News (2013b) 'Nuclear waste repository: Cumbria attacks government move' *BBC News* [Online] Available at: <http://www.bbc.co.uk/news/uk-england-cumbria-25041302>
- BBC News (2013c) 'EDF firm deny fuel claim' *BBC News* [Online] Available at: <http://www.bbc.co.uk/news/science-environment-24834932>
- CoRWM (2006) *Managing our radioactive waste safely Recommendations to government*. London: CoRWM.
- DECC (2013) *Consultation: Review of the siting Process for a Geological Disposal Facility*. London: DECC.
- DECC (2011) *National Policy Statement for nuclear energy generation (EN-6) Annex II*. London: DECC.
- Flynn et al, J. (1992) "Trust as determinant of opposition to a high-level radioactive waste repository: analysis of a structural model", *Risk Analysis* 12: pp 417-429
- Folger, T. (1995) Rock Characterisation Facility Proof of evidence PE/NRX/12. Policy considerations
- Katsuya, T. (2002) "Difference in the formation of attitude toward nuclear power" *Political Psychology* 23: pp 191-203
- Lehtonen, M. Kern, F (2009) 'Deliberative socio-technical transitions'. In Scrase, I. MacKerron, M (ed's) *Energy for the future: a new agenda*. Basingstoke: Palgrave Macmillan, pp 103-122
- NCG (2010) *Memorandum submitted by the Nuclear Consultation Group* [Online] available at: <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmenergy/memo/nps/uc9002.htm>
- News and Star (2013) 'Allerdale set to back Government proposal to sideline county council in nuclear store search' *News and Star* [Online] <http://www.newsandstar.co.uk/news/1.1101625>
- Special Eurobarometer 297 (2008) "Attitudes towards radioactive waste", *European Commission*
- Summers, C. and Hine, D. (1997) "Nuclear waste goes on the road: risk perceptions and compensatory tradeoffs in single-industry communities" *Behavioral Science* 29: pp 210-222

UK Nirex LTD and British Geology Survey (2006) *A note by the British Geological Survey and Nirex on the Suitability of UK Geology for Siting a Repository for Radioactive Waste, document 1797*