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Consultation – summary of responses

Geological Disposal of Higher Activity Radioactive Waste:

Community Engagement and Implementation Processes

Date of issue: December 2015

Introduction

- i. Radioactive waste disposal is a devolved matter: the Welsh Government is therefore responsible for determining the policy for disposal of radioactive waste in Wales.
- ii. The Welsh Government Policy on the Management and Disposal of Higher Activity Radioactive Waste (HAW) was published in May 2015¹ and adopted geological disposal as the long term management option for HAW and confirmed that the Welsh Government considers that this can only be delivered in Wales on the basis of voluntary engagement with a potential host community.
- iii. The Welsh Government policy statement issued on 19 May 2015 also set down the background to the decision to adopt a policy for geological disposal. The main drivers behind the new policy included the need to ensure compliance with the Spent Fuel and Radioactive Waste Directive; consistency with the Welsh Government's position on supporting new nuclear power stations on existing sites in Wales; and intergenerational equity requiring decisions to be taken by the current generation for the disposal of the 60 year legacy of waste which had arisen from historic civil and military uses of radioactive materials.
- iv. Following the adoption of this policy, the Welsh Government issued a further consultation to seek the views of the people of Wales on the processes and mechanisms by which a siting process could be carried out in Wales should a community in Wales wish enter and take forward discussions about potentially hosting a GDF. This consultation on the Processes for Implementing Geological Disposal ran from 19 May to 18 August 2015². The full list of questions can be found in Annex 1.
- v. The Minister for Natural Resources launched the consultation on 19 May 2015 and the document was published on the Welsh Government consultation pages. Members of the public were asked to respond by submitting the response form, either by email or by post.

¹ <http://gov.wales/docs/desh/policy/150519-policy-on-the-management-and-disposal-of-higher-activity-radioactive-waste-en.pdf>

² <http://gov.wales/consultations/environmentandcountryside/geological-disposal-of-higher-activity-radioactive-waste-community-engagement-and-implementation-processes/?lang=en>

- vi. Chapter 1 of this consideration of the responses received to the consultation provides a quantitative analysis of the answers received to the questions raised in the consultation. Chapter 2 identifies and analyses the main themes emerging from the responses received. The full responses will also be published on the Welsh Government website (unless the respondent requested us not to do so) for transparency.

Chapter 1

Analysis of responses received to the consultation

Summary

1. 1 The responses received to the Consultation have been published on the Welsh Government website³. A summary of the responses received to each question can be found in this Chapter.
1. 2 This document summarises the responses received and highlights the main issues which have come out of the consultation. The Welsh Government consideration of the main themes raised can be found in Chapter 2.
1. 3 The Welsh Government received replies from 41 individuals and organisations. These included a number of duplications or endorsements and therefore the analysis has been undertaken on the 36 responses that were received.

How have we analysed the responses?

1. 4 A number of the responders did not answer the questions in the consultation document, but commented on other related issues, including several which were considered in the analysis to the consultation reviewing the existing policy on disposal of higher activity radioactive waste⁴. The Welsh Government consideration of these issues can be viewed on the Welsh Government consultation pages. The main themes which emerged have also been discussed in Chapter 2.
1. 5 Where the respondents have not specifically addressed a question but it is sufficiently clear from the rest of the response that a sensible assessment of the respondents' views can be understood, these have been included as answers to the question.

³ <http://gov.wales/consultations/environmentandcountryside/disposal-higher-activity-radioactive-waste/?lang=en>

⁴ <http://gov.wales/consultations/environmentandcountryside/disposal-higher-activity-radioactive-waste/?lang=en>

Question 1

Do you agree that the Welsh Government should adopt siting processes and arrangements for engaging with potential volunteer host communities that are compatible with those adopted for England and Northern Ireland providing they are consistent with the needs of Welsh communities?

If you consider that the Welsh Government should adopt a different approach please indicate what alternative arrangements you consider would be appropriate and what advantages you consider they would offer.

Of those who addressed the question, 79% agreed that the Welsh Government should adopt a siting process and arrangements for engaging with potential volunteer communities that are compatible with those adopted for England and Northern Ireland. Of these most emphasised that this was dependent on the proviso that they were consistent with the needs of Welsh Communities.

1. 6 14 (39%) of the responses explicitly answered the question posed.
1. 7 11 (79%) of those that addressed the question (31% of total received) felt that the Welsh Government should adopt processes and arrangements that are compatible with those for England and Northern Ireland. A number of reasons were provided, largely around the following themes:
 - Consistent arrangements would ensure more efficient use of resources and cost effectiveness;
 - Consistent arrangements would avoid potential confusion and would provide transparency; and
 - Consistent arrangements will avoid the perception of different standards and ensure a level playing field.
1. 8 A number of concerns were also raised around the theme of the need for consideration of the differences in Wales, in particular environmental, linguistic and legislative regimes- specifically referring to the separate planning regime.
1. 9 Three responses disagreed that compatible arrangements should be adopted to those for England and Northern Ireland. Two gave as a reason that they disagreed with the policy itself. One did not accept that any community representatives would adequately represent the communities they come from.

1. 10 No alternative siting process arrangements for engaging with volunteer communities were proposed.

Question 2

Do you agree that geological disposal should only be taken forward with volunteer communities willing to engage, without prior commitment, in discussions about potentially hosting a GDF?

All of those who addressed the question agreed (with some caveats) that geological disposal should only be taken forward with volunteer host communities.

1. 11 14 of the responses received (39%) directly answered the question.
1. 12 All of those who addressed the question agreed that geological disposal should only be taken forward with a volunteer community.
1. 13 Reasons given were focused around the themes of this being the only right, effective and equitable way of progressing geological disposal, that this is in line with international best practice and that the right process would be most likely to lead to greater public acceptance.
1. 14 A number of respondents included caveats such as a requirement for 100% democratic acceptance, the volunteerism principle should be extended to the building of new nuclear power stations and that no engagement should take place prior to a community coming forward.
1. 15 Many of the respondents also indicated that Welsh Government should be urgently taking forward work to define communities taking into account the work being undertaken by the UK Government.

Question 3

Do you agree that communities should have a right of withdrawal from discussions which can be exercised at any point prior to a public test of community support?

All of those who addressed the question, agreed (with some caveats) that communities should have a right of withdrawal.

1. 16 14 responses addressed the question. All of these (39% of the total) agreed that communities should have a right of withdrawal from discussions and the majority of these agreed that this should be possible at any point prior to a public test of community support.
1. 17 One respondent felt that a community should have the right of withdrawal beyond the test of public support, extending to when the facility is built and operational.
1. 18 Several respondents felt that communities would only be willing to engage in the process if they could be confident that they had the right to withdraw. This would allow a community sufficient time to be effectively engaged, ensure any concerns of the community can be effectively addressed and to provide relevant information and evidence to inform the decision.
1. 19 It was also highlighted that this principle should apply to give communities in Wales parity to those in England and Northern Ireland.

Question 4

Do you agree that there should be a public test of community support after discussions and the provision of information to a potential host community and before construction of a GDF starts?

All of those who addressed the question agreed that there should be a public test of community support.

1. 20 13 responses (36%) addressed the question. All of these felt that there should be a public test of community support and the majority agreed that this should take place after discussions and the provision of information and before construction.
1. 21 Several responses felt that this was vital as a facility could not be delivered without a willing community.
1. 22 Some respondents felt that a test for community support should take place early in or throughout the process.

Question 5

The Welsh Government would welcome constructive proposals for how the public test of community support should be structured in Wales.

The most prevalent recommendation was that the Welsh Government engage with and be informed by the ongoing work by the UK Government and the Community Representation Working Group.

1. 23 A range of suggestions were proposed, though the following themes emerged:

- The test should be democratic, transparent and inclusive;
- The work of the UK Government/ the Community Representation Working Group should inform the shaping of proposals;
- Community needs to be clarified;
- Any test must reflect the affected community- this would not necessarily follow geographical and political boundaries; and
- The test must follow a campaign of information provision to inform the public, including a variety of views, accessible information, separation of risk perception from scientific fact and free from persuasion.

Question 6

Do you consider that potential volunteer host communities should be given access to information such as the national geological screening and information about the science and engineering of geological disposal in advance of engaging in discussions about potentially hosting a GDF?

All of those who addressed the question agreed that potential volunteer communities should be given access to information such as the national geological screening and information about science and engineering prior to engaging in discussions.

1. 24 14 of the responses received addressed the question and all of these (39% of the total) agreed that communities should be provided with such information prior to engaging in discussions about potentially hosting a facility.
1. 25 A range of reasons were given including this proposal being in line with international good practice and giving parity with England and Northern Ireland.
1. 26 Early provision of such information will allow a community to rule themselves out of the process early if a location is clearly unsuitable. It would also be vital for the effectiveness of a credible siting process, without which there could be legal challenge on the basis of a community making a decision based on incomplete information. No relevant information should be withheld on any basis.
1. 27 The need for information to be presented in a neutral way and in a format that was comprehensible without expecting communities to be able to interpret technical information emerged as a major theme.

Question 7

Do you consider that communities in discussion about potentially hosting a GDF should have independent access to expert advice during those discussions when they consider it is necessary?

All of those who addressed the question agreed that communities in discussions about potentially hosting a facility should have independent access to expert advice

1. 28 14 of the responses received (39% of the total) addressed the question and all agreed that communities in siting discussions should have independent access to expert advice during those discussions when they consider it necessary.
1. 29 Respondents felt this was appropriate for reasons including; providing parity with England and Northern Ireland, following international good practice and that it was important to give confidence to communities to build capacity and knowledge to input into decision making process.
1. 30 Many respondents also highlighted the need for balanced views which avoided sensationalism, from experts who could frame advice specifically in the context of geological disposal of radioactive waste and who also could be trusted. Access to learned societies will help communities trust the advice they get.
1. 31 Some responses considered that people are often sceptical of government advice and therefore neither the Government nor the developer can take the lead role of helping communities understand technical issues without a perception to having undue influence.
1. 32 One response considered that sources of advice should not be limited to those regarded as providing a “safe pair of hands”.

Question 8

Do you agree that the inventory for disposal should be specified in advance of discussions and that any changes should be subject to community agreement before any commitment to hosting a GDF?

86% of those who addressed the question agreed that the inventory for disposal should be specified in advance and any changes should be subject to community agreement.

1. 33 14 respondents addressed the questions. Of these 12 (86%) agreed that the inventory should be specified in advance and that any changes should be subject to community agreement.
1. 34 The reasoning for specifying the inventory included:
 - This information being integral to the provision of full information on which the community will make its decision;
 - There must be transparency in the provision of information; and
 - The inventory will determine the size of the GDF and whether more than one is required.
1. 35 Concern was expressed that the terminology used is subjected and open to abuse.
1. 36 The constraints of a facility should not be the volumes but that the waste can be safely disposed of. A site specific safety case may constrain what volume and type of waste and activity can be disposed of.
1. 37 Two responses did not agree. One on the grounds of opposition to new nuclear power stations and one that it would be unnecessary and counter productive as the relationship between the inventory and impacts can be complex- communities need clarity.

Question 9

Do you agree that the inventory for disposal should include waste from new nuclear power stations?

69% of those who addressed the question agreed that the inventory should include waste from new nuclear power stations.

1. 38 13 of the responses addressed the question. Of these 69% (9) agreed that the inventory for disposal should include waste from new nuclear power stations.
1. 39 The main reasoning given is that there is no technical reason why waste from new nuclear power stations should not be included, that this is the sensible approach (in particular given the Government policy on new nuclear power stations) and the most secure option available.
1. 40 The importance of transparency was also highlighted. Withholding any relevant information will only have a negative effect on the success of any implementation process.
1. 41 4 respondents (31% of those who addressed the question) disagreed that waste from new nuclear power stations should be included in the inventory. The main reason given for this was an opposition to any policy resulting in the creation of additional HAW.

Question 10

If you do not agree that waste from new nuclear power stations should be included in the inventory for disposal what disposal option would you prefer for waste from new nuclear power stations?

1. 42 As previously discussed, the most prevalent reasoning for not including new build waste was that the creation of such waste is preventable- and so some respondents argued that the alternative disposal option would be to reverse policies which would lead to the creation of any additional HAW.
1. 43 It was also pointed out that there is no credible alternative disposal solution for the waste from new nuclear power stations and so if it was excluded from the inventory for disposal, another separate GDF would need to be build for the waste from new nuclear power stations.
1. 44 The only alternative option proposed was near site, near surface storage. In addition research should be undertaken to consider the proportion of the inventory which would be suitable for near surface facilities or other [unspecified] environmentally responsible forms of waste treatment.

Question 11

Do you agree that Government should provide funding to communities to meet the cost of engaging in discussions about potentially hosting a GDF?

36% of respondents, and all of those who addressed the question agreed that Government should fund communities to meet the costs of engaging in discussions.

1. 45 13 of the responses addressed the question and all of these agreed that the Government should provide funding to communities to meet the costs of engaging in discussions about potentially hosting a GDF.
1. 46 Many of the responses reiterated the reasoning outlined in the consultation document and included:
 - This funding would be crucial to maintain the confidence of potential host communities and empower them;
 - The complexities of the project would require specialist capacity and expertise; and
 - This will allow communities effectively to engage in the process and will result in a meaningful process with communities as equal partners.
1. 47 A number of the responses included cautionary comments or recommendations for the arrangements, including:
 - Financing arrangements for community funding should be managed by the local authority;
 - Similar funding should be provided to communities hosting new nuclear developments;
 - Funding arrangements must be such that they disallow Government or developer improperly to influence the community;
 - Funding should be widely distributed including to environmental and non-governmental organisations; and
 - Communities should not be under pressure to engage in the process to access funding due to a pre-existing need for social, economic or environmental funds.

Question 12

Do you agree that Government should provide additional investment for communities engaging in discussions about potentially hosting a GDF and further community investment if a community commits to hosting a GDF?

92% of the responses that addressed the question agreed that additional investment should be provided by Government for communities engaging in discussions and further community investment if the community commits to hosting a GDF.

1. 48 12 (33%) responses addressed the question. Of these, 11 (92% or 31 % of the total) agreed that additional investment should be provided by Government to potential host communities.
1. 49 The respondents gave a number of reasons why communities should receive investment, including:
 - Welsh communities should have the right to benefit equally to the investment which would be made available to communities in England;
 - As recognition of the importance of agreeing to host a nationally significant facility- this is in line with other large infrastructure projects;
 - In recognition of the impact of construction and to provide measures required to avoid, mitigate and compensate communities;
 - It would be unlikely that a community would volunteer unless this was offered; and
 - As compensation for any negative impact on the economic development or blight on the area.
1. 50 Several respondents provided additional comment in response to this questions, a summary of which are outlined below;
 - Compensation levels should be fully assessed and commensurate with the level of impact ;
 - Investment should not be linked to artificial or political boundaries, but areas of assessed impact- for example some parts of one local authority might not be impacted at all, whereas areas along transport

routes etc. may be heavily impacted but not within the host authority boundary;

- Investment should be provided over and above the socio- economic benefits that hosting a GDF would bring through employment and supply chain opportunities;
- The exact community entitlement needs to be clarified as lack of clarity will make the failure of a siting process more likely; and
- Investment should be proportionate to the length of engagement and level of commitment to discussions and the scale of consultation necessary (e.g. undertaking environmental impact assessments as part of the planning process).

1. 51 In addition one respondent also felt that equivalent investment should be extended to all potential host communities for new nuclear power stations.

1. 52 One response disagreed completely with the provision of community funding on the basis that such decisions should never be taken for financial reasons and communities would be exchanging short term financial gains for long term problems.

Other comments made

1. 53 Additional comments received outside the scope of the questions were predominantly in relation to the Welsh Government policy on new nuclear power stations and the policy of disposal of HAW using geological disposal, including because of doubts around safety issues: these themes are discussed in Chapter 2. Extensive consideration of these issues can also be found in the Welsh Government analysis of the responses to the consultation Review of Welsh Government Policy on the Management and Disposal of Higher Activity Radioactive waste. Some respondents also expressed dissatisfaction with the questions posed, or the consultation process itself. Concern was also expressed that if no community volunteers, Government could impose a facility on a community in Wales.

Chapter 2

Welsh Government consideration of the main themes raised by responses received to the consultation

- 2.1 This chapter contains the Welsh Government's consideration of the main themes raised in the responses it has received to the consultation on Geological Disposal of Higher Activity Radioactive Waste: Community Engagement and Implementation Processes⁵ issued on 19 May 2015 ("the consultation"). The Welsh Government has published the responses it has received. Chapter 1 above gives an analysis quantifying the responses to the questions asked in the consultation.
- 2.2 The Welsh Government is grateful to the individuals and organisations that responded to the consultation. In commenting on the main themes arising from the responses to the consultation the Welsh Government has carefully considered the views expressed in the responses it has received and has also taken into account expert advice it has received.
- 2.3 The consultation followed the Welsh Government adoption, following earlier consultation (issued on 23 October 2014)⁶, of a policy for the geological disposal of HAW⁷. In the consultation the Welsh Government sought comments on proposals for arrangements for siting a GDF in Wales, subject to a community being prepared, voluntarily, to host it.
- 2.4 The consultation was neither about the policy for geological disposal itself nor the Welsh Government's policy for supporting the development of new nuclear power stations on existing nuclear power station sites in Wales. The Welsh Government has already announced policies on these matters. However many of the responses to the consultation addressed these issues and were similar to comments already received in response to the call for evidence issued by the Welsh Government on 29 April 2014⁸ and the consultation issued by the Welsh Government in October 2014. Although these responses did not address the questions asked in the consultation, the Welsh Government has again carefully considered the comments raised on these issues. In many cases the Welsh Government has come to conclusions which are the same or similar to those it adopted in response to comments received to the earlier consultations. The Welsh Government's conclusions are set out in paragraphs 2.5 to 2.12.

⁵ <http://gov.wales/consultations/environmentandcountryside/geological-disposal-of-higher-activity-radioactive-waste-community-engagement-and-implementation-processes/?lang=en>

⁶ <http://gov.wales/consultations/environmentandcountryside/disposal-higher-activity-radioactive-waste/?lang=en>

⁷ <http://gov.wales/docs/desh/policy/150519-policy-on-the-management-and-disposal-of-higher-activity-radioactive-waste-en.pdf>

⁸ <http://wales.gov.uk/consultations/environmentandcountryside/disposing-of-higher-activity-radioactive-waste/?lang=en>

Themes arising other than in response to questions in the consultation

2.5 Radioactive waste cannot be disposed of.

- a. *Some responses considered that geological disposal cannot isolate radioactive waste from the surface environment.*
- b. The Welsh Government does not share the view that there is no safe disposal option for HAW and spent fuel. CoRWM 1 carried out detailed and extensive considerations of the options for managing HAW and spent fuel in the future before advising Government that geological disposal was both a safe management option and also the best management option. The regulators (EA and ONR) have stated from a review of RWM's generic disposal system safety case that at this time they see no reason why an operational, environmental or transport safety case could not be made for a geological disposal facility (GDF). The Welsh Government has also noted that countries around the World that are taking forward programmes for the disposal of longer lived radioactive waste and spent fuel are doing so using geological disposal (see paragraph 4.11 in Annex 3 to the Welsh Government's policy statement of May 2015⁹).
- c. *Some responses considered that the term disposal cannot be used as HAW will remain harmful for very long periods.*
- d. The terms storage and disposal are used in this document with specific meanings as defined in the SF&RW Directive¹⁰:

Article 3 (3): "disposal" means the emplacement of spent fuel or radioactive waste in a facility without the intention of retrieval;

Article 3 (14): "storage" means the holding of spent fuel or radioactive waste in a facility with the intention of retrieval.
- e. Disposal therefore places no expectation for further intervention on future generations.
- f. While provision may be made for ongoing monitoring and/or for recovery of the waste, at least for a period, the policy behind the UK Government's geological disposal programme, and others around the World, is that waste would only be placed in a GDF if it is demonstrated that it can be disposed of safely, and there should therefore be no need to intervene once the waste is emplaced and certainly not after the facility is closed. However, for the period of operation, waste that has been placed in a GDF could be retrieved if there was a compelling reason to do so. The Welsh Government endorses this approach.

⁹ <http://gov.wales/docs/desh/policy/150519-policy-on-the-management-and-disposal-of-higher-activity-radioactive-waste-en.pdf>

¹⁰ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32011L0070&qid=1397211079180>

- g. The regulators will require a safety case that is consistent with the intention not to intervene after the facility is closed. Any arrangements for monitoring and/or recovery of waste will be reviewed by the regulators to ensure that they do not unacceptably affect the safety case for any proposed GDF. The regulators will also require the safety case for any proposed GDF to demonstrate that the level of containment and isolation of the waste provides long-term protection against harmful levels of radioactivity reaching the surface environment.
- h. *Some responses expressed concern about the long term safety of geological disposal. Some responses were also concerned about the use of computer modelling to validate geological disposal.*
- i. The developer (RWM Ltd) will need to provide the regulators with a full and satisfactory safety case, backed up by evidence, before a GDF can be built. Computer modelling is a normal way to test a range of scenarios in complex industrial projects, including more extreme and less likely ones. The regulators will need to be satisfied with the rigour of this process before approval is given to a GDF being built or operated.
- j. *Some responses stated that the accident at the Waste Isolation Pilot Plant (WIPP) in New Mexico, USA, in 2014 demonstrated that geological disposal is unsafe.*

In February 2014 an incident occurred at WIPP which resulted in a release of radioactive material to the environment and the exposure of some of the workforce to radioactivity (although follow up tests showed that no-one received any exposure greater than they would get from a chest x-ray). Investigation since the event traced the source of the release to the use of inappropriate packaging materials in some packages of waste sent to the plant for disposal leading to the failure of one of the packages. The investigation identified problems with staff training, operational aspects and regulation at the Los Alamos National Laboratory and some operational aspects at WIPP. As with any incident of this kind, there are opportunities for lessons to be learnt across the nuclear industry, including internationally, however, the incident did not demonstrate the failure of geological disposal. As with any incident of this kind there are opportunities for lessons to be learned, however, the incident has not identified any issues that challenge the position that geological disposal is the preferred option for the management of higher activity waste.

- k. *Some responses were concerned that earthquakes or the formation of gases would make geological disposal unsafe.*

- I. Concerns about the effect of earthquakes were also raised in response to the call for evidence and the Welsh Government sought advice from CoRWM about this. CoRWM's advice at that time was:

“Approval for a GDF under UK regulations would require demonstration of a robust safety case. The production of CO₂ and methane within the waste would be considered as part of the design as would vulnerability to earth movements.

In conclusion, CoRWM's position remains that “geological disposal remains the best available approach for the long-term management when ... compared with the risks associated with other methods of management” (CoRWM Doc 700 Recommendation 1).

2.6 Use of the best geology

- a. *Some responses considered that the Managing Radioactive Waste Safely (MRWS) programme should only consider siting a GDF in areas with the best or most suitable geology and not rely on a mix of engineered and natural barriers.*
- b. The Welsh Government has noted these views. However the Welsh Government has also considered the views expressed by CoRWM and the regulators that geological disposal in any context will involve a range of barriers to the release of radioactivity back to the environment: the waste form, its packaging, engineered and geological barriers. A multiple barrier approach is accepted internationally, for example, in IAEA guidance¹¹. It will be for the developer to convince the regulators that the mix of barriers proposed in the safety case for any GDF meets the required standard and can provide a safe degree of containment and isolation in the long term. That safety case will include consideration of the suitability of the geology of the proposed site as indicated by extensive testing, including borehole testing.
- c. CoRWM's advice on this matter concludes:

“CoRWM has repeatedly emphasised that geology has to be considered in the context of, and as one element contributing to, the safety case. This will inevitably involve consideration of both geology and engineering factors and, if it is not possible to make a safety case in a particular geological setting (i.e. the geology is not ‘good’ enough), this will become apparent.”
- d. *Some responses considered that the Welsh Government should leave the Managing Radioactive Waste Safely programme until the programme limits itself to considering only the best geology.*
- e. The Welsh Government does not consider that it is in the best interests of the people of Wales for it to leave the Managing Radioactive Waste

¹¹ <http://www-pub.iaea.org/books/IAEABooks/8535/Geological-Disposal-Facilities-for-Radioactive-Waste-Specific-Safety-Guide>

Safely programme and thereby prevent it from ensuring that the interests of the people of Wales are taken into account in the programme. Leaving the programme would also be inconsistent with the Welsh Government adopting a policy for geological disposal as the best long term management route for HAW and spent fuel.

2.7 Radioactive waste should be managed on the surface

- a. *Some responses considered that the Welsh Government should adopt a policy of ongoing surface or near surface management of HAW (similar to that of the Scottish Government policy of ongoing surface or near surface management¹².*
- b. The Welsh Government notes that CoRWM 1's recommendation that geological disposal is the best long term management option for HAW and spent fuel has been confirmed by CoRWM 2¹³. Geological disposal has also been adopted worldwide by nations taking forward the disposal of HAW including e.g. countries like Germany which do not intend to use nuclear power in the future.
- c. Safe and secure interim storage was recognised by CoRWM as being an essential part of managing HAW in advance of any disposal programme. HAW is currently being stored safely and securely on the surface (e.g. in the ILW store at Trawsfynydd nuclear power station). However, ongoing storage is not a disposal option and does not remove the need for intervention by future generations. It is of course for each administration in the UK to decide what policy best suits the needs of the people it serves. After reviewing the evidence available to it the Welsh Government considers that, for Wales, a permanent disposal option better meets the need to protect future generations and deliver intergenerational equity by taking action now and thereby not leaving responsibility for decisions to future generations.
- d. The Welsh Government has seen no evidence to suggest that ongoing surface management of HAW will provide a safer long term answer to these issues than geological disposal of HAW.
- e. *Some responses considered that surface storage should be near site to minimise the transport of radioactive waste.*
- f. The Welsh Government agrees that the transport of radioactive waste should be minimised. Nevertheless some transport may be necessary to allow waste to be processed into safer and more stable forms for

¹² Scottish Government *Scotland's Higher Activity Radioactive Waste Policy 2011*
<http://www.scotland.gov.uk/Topics/Environment/waste-and-pollution/Waste-1/16293/higheractivitywastepolicy/hawpolicy2011>

¹³ CoRWM Statement on Geological Disposal. CoRWM doc 3122, July 2013
<https://www.gov.uk/government/organisations/committee-on-radioactive-waste-management>

interim storage or to allow disposal. These activities and the transport required therefore deliver an overall benefit. There are established procedures for transporting radioactive wastes and other radioactive materials and the Welsh Government notes that the safe transport of radioactive materials has taken place worldwide for over 60 years. The requirements for the safe transport of radioactive materials are governed by international standards and European Directives and which are implemented in UK legislation. The transport of radioactive waste in the UK is regulated by the Office for Nuclear Regulation (ONR).

2.8 Geological disposal should not go forward at this time.

- a. Some responses said that as the majority of waste from nuclear power stations in Wales will not be generated until the existing power stations are finally dismantled the Welsh Government should not take a decision now. Other responses considered that taking decisions now would prevent future generations deciding themselves how to deal with the problem of radioactive waste. Some responses also thought that taking decisions now would pre-empt the possible future development of new technologies to manage or dispose of radioactive waste.*
- b. The Welsh Government considers that delaying decisions now** avoids taking responsibility now for the waste created by current and past generations which have benefited from the electricity generated and the economic opportunities of existing nuclear power stations. The importance of intergenerational equity is central to the Welsh Government policy on the management and disposal of higher activity radioactive waste and is also a central theme of the SF&RW Directive.
- c. Adopting a policy for geological disposal now does not preclude future generations adopting new technologies if their benefits at that time compliment or outweigh geological disposal. Although new methods for managing HAW and spent fuel may be developed in the future the Welsh Government has seen no evidence to suggest that any potential future management options for HAW and spent fuel will avoid the need for the geological disposal of at least part of the inventory.*
- d. Some responses considered that as waste was being safely and securely stored, currently and for the foreseeable future, there was no need to adopt a policy for disposal.*
- e. While HAW is currently being safely and securely stored and can be so for the foreseeable future, HAW will remain potentially harmful for hundreds of thousands of years. This is beyond any period for which it is possible to predict institutional control, and beyond any period for which it is possible to predict risks arising from natural disasters such as flood or climate change. The Welsh Government considers that these risks, and those potentially arising in the distant future from e.g.*

societal breakdown, war or terrorism can be more effectively mitigated by geological disposal rather than ongoing management on the surface.

- f. *Some responses said that the Welsh Government should support calls for a moratorium on the development of geological disposal until such time as the large number of unanswered technical issues associated with geological disposal have been answered.*
- g. The Welsh Government acknowledges that a large number of issues (ca 900) have been raised, over an extended period, both by stakeholders and proactively by the developer, RWM¹⁴, in connection with geological disposal. The Welsh Government notes that RWM, is taking forward resolution of these issues although some are site specific and can only be resolved during investigation of a specific site. RWM has a register of these issues¹⁵. The Welsh Government notes that the regulators will require all relevant issues to be satisfactorily addressed before giving approval to a GDF. The Welsh Government therefore considers that a moratorium on geological disposal would serve no useful purpose and would merely delay the delivery of a solution to the future management of HAW and spent fuel thus leaving decisions and burdens to future generations.

2.9 Welsh Government policy on new nuclear power stations

- a. *A significant number of responses opposed the Welsh Government policy of supporting new nuclear power stations on existing sites in Wales.*
- b. The Welsh Government recognises that there are a wide range of views about nuclear power and about new nuclear power stations and this issue was also raised in responses to the earlier Welsh Government consultations on the management and disposal of HAW.
- c. The Welsh Government's reasons for supporting new nuclear power stations are set out in its policy statement 'Energy Wales: A Low Carbon Transition'¹⁶, which recognises the importance of a new nuclear power station at Wylfa in providing a constant, reliable low carbon energy source to complement the range of renewable energy developments in Wales. Its development would also offer significant long term benefits to the economy of Wales.

¹⁴ Radioactive Waste Management Limited (RWM, the developer). RWM is a wholly owned subsidiary company of the NDA, responsible for implementing a safe, sustainable, publicly acceptable geological disposal programme.

¹⁵ <http://www.nda.gov.uk/rwm/issues/>

¹⁶ Welsh Government *Energy Wales: a low carbon transition*, 2012
<http://wales.gov.uk/topics/environmentcountryside/energy/energywales/?lang=en>

- d. The Welsh Government acknowledged in the consultation paper that new nuclear power stations, including that proposed at Wylfa Newydd, will create HAW and spent fuel. One of the drivers for the Welsh Government's policy for the future management of HAW and spent fuel is the need for consistency between its support for new nuclear power stations on existing sites in Wales and its policy for the management of the waste that they will produce.
- e. However, even if no new nuclear power stations are built there is already a substantial legacy of radioactive waste, built up over the last 60 years, which will need eventual disposal to protect the interests of future generations. Intergenerational equity requires the disposal of this waste in ways which will avoid the need for future generations to be involved in its management.

2.10 *Imposing geological disposal*

- a. *Some responses were concerned that geological disposal will be imposed in Wales either by the Welsh Government or by the UK Government.*
- b. Disposal of radioactive waste in Wales, including geological disposal, is a devolved matter: it is therefore subject to Welsh Government policy, not UK Government policy.
- c. In its policy the Welsh Government has stated clearly that, in Wales, geological disposal can only be taken forward with a voluntarist approach following the willing participation in discussions with a community or communities which have all the information necessary to allow their informed participation.
- d. The Welsh Government therefore supports the voluntarist approach to siting a GDF whereby potential host communities willingly engage in discussions, without prior commitment, about hosting a GDF. Communities will also be able to withdraw from discussions at any point up to the test of public test of community support. If a community withdraws from discussions, the process at that locality will come to an end.
- e. The Welsh Government has neither identified nor considered any sites or areas, within Wales or outside Wales, for siting a GDF.

2.11 *Welsh Government should be responsible for "Welsh" wastes*

- a. *Some responses considered that the Welsh Government should be responsible for all the radioactive waste and spent fuel arising in Wales*

including those wastes already transported for management in England.

- b. The Welsh Government considers that this view misunderstands the position of the Welsh Government in the Managing Radioactive Waste Safely programme. The Welsh Government has devolved responsibility for policy relating to the disposal of radioactive waste in Wales. Responsibility for policy does not mean that waste arising from activities in Wales needs to be disposed of in Wales: for example, the Welsh Government supports the four country UK strategies for the management and disposal of low level radioactive waste (LLW). The only radioactive waste currently subject to disposal in Wales is low volume very low level radioactive waste (VLLW, typically protective overalls, wipes etc. with negligible amounts of radioactive contamination) which can be disposed of, under an environmental permit, to e.g. municipal landfill sites. All other LLW is currently sent to the UK Low Level Waste Repository near Drigg in Cumbria, or other, suitably permitted, treatment or disposal sites in England.
- c. Similarly, HAW arising from activities in Wales (such as the intermediate level radioactive waste (ILW) currently stored at in the ILW store at Trawsfynydd) will eventually be sent for disposal to a UK facility. Depending on the success of discussions with a willing host community and regulatory approval of a safety case, this could be either in Wales, England or Northern Ireland, and a GDF would take waste from both Wales and England and the small amounts of ILW generated by activities in Northern Ireland.
- d. *Some correspondents considered that the Welsh Government should be required to dispose of “Welsh” waste in Wales.*
- e. As discussed above the Welsh Government is part of a programme for the delivery of geological disposal across Wales, England and Northern Ireland. The Welsh Government also supports a voluntarist approach to delivering geological disposal via discussions with willing potential host communities. A requirement on the Welsh Government to deliver a GDF in Wales would be inconsistent with both these considerations.

2.12 *Concern over the nature of jobs arising from a GDF.*

- a. Concern was expressed that a GDF would offer only a few low quality jobs to the local community. The Welsh Government notes that developing, operating and closing a GDF will take over a century and it is estimated will generate an average of 570 direct jobs over the duration of the project, with workforce numbers rising to around 1000 during the initial construction phase¹⁷. About three quarters of the jobs would be managerial, technical or scientific. As with the existing nuclear power stations in Wales a GDF would offer significant good

¹⁷ NDA. Geological disposal: Manpower and skills requirements 2012 update. November 2012.

employment opportunities for local people, increasingly so over time, both directly and more widely to the local economy.

2.13 Conclusion

The matters discussed above refer to decisions previously taken by the Welsh Government. The Welsh Government has considered the points raised in response to the consultation very carefully but considers that they do not introduce any new matters which give any reason for the Welsh Government to revisit its decisions on these matters.

Responses to questions asked in the consultation

2.14 The Welsh Government has carefully considered points raised in response to questions asked in the consultation. This consideration is set out below and is also reflected in the policy statement¹⁸ setting out the Welsh Government's decisions on proposals for siting a GDF and the arrangements for engaging with potential volunteer host communities.

2.15 Compatible siting arrangements

Question 1: Do you agree that the Welsh Government should adopt siting processes and arrangements for engaging with potential volunteer host communities that are compatible with those adopted for England and Northern Ireland providing they are consistent with the needs of Welsh communities?

Please give your reasons.

If you consider that the Welsh Government should adopt a different approach please indicate what alternative arrangements you consider would be appropriate and what advantages you consider they would offer.

- a. Most responses which answered Question 1 supported the adoption of siting processes in Wales that are compatible with those being adopted in England and Northern Ireland providing that they are consistent with the needs of Welsh communities. Concerns were raised over areas where Wales is different from e.g. England such as having single tier local authorities, different planning arrangements and the need to reflect the Welsh language matters.
- b. The Welsh Government recognises that there are areas of difference between Wales and e.g. England. However the Welsh Government sees no advantages in seeking to create different structures for Wales providing that the arrangements being adopted in England and Northern Ireland are or can be made compatible with the needs of Welsh communities. Having compatible arrangements does not necessarily mean that they have to be identical. Having considered the responses to Question 1 the Welsh Government remains of the view, as set down in its preferred option in the consultation, that suitably compatible arrangements can be put in place. It will work with Community Representation Working Group (CRWG) and other stakeholders to ensure that the specific needs of Welsh communities and the needs of Wales as a whole are fully considered in developing the community engagement arrangements and the siting processes. If

¹⁸ <http://gov.wales/docs/desh/policy/150519-policy-on-the-management-and-disposal-of-higher-activity-radioactive-waste-en.pdf>

it is satisfied that suitable arrangements can be put in place the Welsh Government will consult further on detailed proposals.

- c. Responses which opposed adopting siting processes and arrangements for engaging with potential volunteer host communities that are compatible with those adopted for England and Northern Ireland also opposed geological disposal as a solution for managing HAW, preferring ongoing storage and managing on the surface. The Welsh Government's reasons for not adopting this approach are discussed in paragraphs 2.7 a-d above.

2.16 Voluntarism and right of withdrawal

Question 2: Do you agree that geological disposal should only be taken forward with volunteer communities willing to engage, without prior commitment, in discussions about potentially hosting a GDF?

Please give your reasons.

Question 3: Do you agree that communities should have a right of withdrawal from discussions which can be exercised at any point prior to a public test of community support?

Please give your reasons.

Question 4: Do you agree that there should be a public test of community support after discussions and the provision of information to a potential host community and before construction of a GDF starts?

Please give your reasons.

Question 5: The Welsh Government would welcome constructive proposals for how the public test of community support should be structured in Wales.

- a. Questions 2 to 5 in the consultation paper raised a common set of issues relating to the Welsh Government's policy that geological disposal can only proceed in Wales on the basis of voluntary engagement by a potential host community or communities. Communities should therefore be able to engage in discussions about potentially hosting a GDF without making any prior commitment, communities should have a right of withdrawal from discussions and that before final decisions are made there should be a public test of community support.
- b. Most of the responses which answered Questions 2 to 5 agreed that geological disposal in Wales should only proceed on the basis of voluntary engagement by potential host communities, safeguarded as

outlined above by the right to withdraw from discussions at any time before final confirmation by a public test of community support.

- c. Some responses considered that the Welsh Government should wait until CRWG finishes its work before considering its own approach to community engagement arrangements. The Welsh Government considers that it is likely to be more efficient and productive if it takes an active part in the working of CRWG. Involvement with CRWG will not prevent the Welsh Government from proposing or consulting upon proposals for Wales which may differ from those proposed for other parts of the United Kingdom. Paragraph 2.15b above notes that arrangements in Wales do not have to be identical to those in England or Northern Ireland for them to be compatible.
- d. Some responses expressed concerns that a GDF could be forced on a community or communities in Wales either by the Welsh Government or by the UK Government. This is discussed at paragraph 2.10 above: geological disposal in Wales is subject to the Welsh Government's policy that geological disposal can only proceed in Wales on the basis of voluntary engagement by a potential host community or communities.
- e. Some responses considered that an early test of community support should be made to confirm that discussions should proceed. The Welsh Government does not support this approach as this would require a decision before all the relevant information about the suitability of the site, operational aspects etc. were available to inform the decision. Furthermore the Welsh Government does not feel that seeking an early decision would add to the safeguards already available to the community from the ongoing right of withdrawal.
- f. Some responses proposed that a right of withdrawal should exist at any time including during the construction of the GDF. The Welsh Government recognises the need to safeguard the interests of the host community together with the interests of society as a whole. A GDF will require substantial public investment which can only be delivered if there is certainty that the project can proceed. The public test of community support is part of delivering that certainty along with acceptance by the regulators of the safety case presented by the developer. That is why the right of withdrawal will be available up to the time of the public test of community support. The test will only be made when the community has all the information it needs to make a decision. However once a commitment is made by support during the public test, the right of withdrawal is removed to allow the project to proceed, subject to planning and regulatory approvals, with certainty thus safeguarding the investment of public money that will be required. In addition to the public test of support, the construction and operation of a GDF will require approval by the regulators based on the safety case submitted by the developer.

- g. The Welsh Government therefore confirms that geological disposal in Wales will only proceed on the basis of voluntary engagement in discussions by potential host communities backed up by a right of withdrawal at any time during those discussions, which could last for more than a decade, during which time site selection and site characterisation activities would also be taking place and confirmation, before any final decision, by a public test of community support. A GDF will only be built in Wales following support in this test and acceptance, by the regulators, of the safety case presented by the developer.
- h. The Welsh Government has noted the suggestions for designing the public test of community support including e.g. a simple referendum. The Welsh Government agrees that communities should have a full range of accurate, factual information available to them about the pros and cons of hosting a GDF in order to inform the public test of community support. It will take these suggestions into consideration during its work with CRWG.

2.17 Access to information

Question 6: Do you consider that potential volunteer host communities should be given access to information such as the national geological screening and information about the science and engineering of geological disposal in advance of engaging in discussions about potentially hosting a GDF?

Please give your reasons.

Question 7: Do you consider that communities in discussion about potentially hosting a GDF should have independent access to expert advice during those discussions when they consider it is necessary?

Please give your reasons.

- a. Questions 6 and 7 referred to ensuring that communities should have access to information and to independent expert advice to allow them to take informed decisions about engaging in discussions and access to independent expert advice as those discussions proceed.
- b. Most of the responses which answered Questions 6 and 7 agreed that communities should have access to information such as the national geological screening and information about the science and engineering of geological disposal in advance of engaging in discussions about potentially hosting a GDF.
- c. Most responses also supported providing communities with access to independent expert advice during discussions with the developer and the Welsh Government.

- d. Some responses were concerned that advice should be truly independent. Other responses considered that advice should represent a range of views including those opposing geological disposal. The Welsh Government considers that communities should be able to access independent advice rather than that supporting one or other viewpoint. Communities should be able to request, from an independent third-party, the review of key technical statements made by different parties during the siting process (particularly where these statements are conflicting). This will help to ensure greater confidence in the accuracy of statements made as part of the siting process.
- e. Following the consultation the Welsh Government therefore confirms that any arrangements for engaging with potential volunteer host communities for a GDF in Wales will include access by communities to independent expert advice to enable them to take a full part in the discussions and informed decisions as they feel necessary.

2.18 Inventory for disposal

Question 8: Do you agree that the inventory for disposal should be specified in advance of discussions and that any changes should be subject to community agreement before any commitment to hosting a GDF?

Please give your reasons.

Question 9: Do you agree that the inventory for disposal should include waste from new nuclear power stations?

Please give your reasons.

Question 10: If you do not agree that waste from new nuclear power stations should be included in the inventory for disposal what disposal option would you prefer for waste from new nuclear power stations?

Please give your reasons.

- a. The Welsh Government considers that potential volunteer host communities need clarity about the waste that may be disposed of in a GDF as part of the information needed made available to them.
- b. Questions 8 to 10 referred to the inventory for disposal and whether HAW from new nuclear power stations should be included in that inventory. The legacy inventory includes HAW already in existence from the 60 years of historical activity in the nuclear industry in the UK, and HAW which will arise from the operation of existing nuclear power stations.

- c. Most responses that answered Question 8 agreed that full information about the inventory for disposal should be made available to potential volunteer host communities as part of the discussions and that this should be part of the public test of community support.
- d. Some responses considered that it was not necessary to specify the inventory in advance, partly because the relationship between the inventory and the impacts was complex. The Welsh Government does not agree with this approach. If communities are not given clear information about then level of commitment they are expected to make this will hinder the development of trust and confidence in the process and will leave opportunities for misinformation. The Welsh Government considers that geological disposal is likely only to be successful if there is a clear understanding of what is needed and of the commitments expected of all partners based on shared information.
- e. Some responses pointed out that the actual volume of the inventory for disposal may change in detail due to modifications to packaging. The Welsh Government considers that providing there is early clarity about the waste that is proposed for disposal, variations arising from changes to the packaging are likely to be less significant in terms of communication with and building trust with a community.
- f. Some responses also pointed out that, although initial discussions may be about the overall inventory, this may change if the safety case places limitations on the volume or type of waste which may be emplaced.
- g. HAW will also arise from new nuclear power stations coming forward as part of the UK Government's programme. This programme is currently envisaged as 16 GWe of capacity.
- h. Responses which answered Question 9 differed about the inclusion of new build waste in the inventory for disposal. The Welsh Government recognises that some people are opposed to the programme of new nuclear power stations. The Welsh Government has set out in paragraphs 7.9 a-e above why it supports new nuclear power stations in Wales on existing sites. The Committee of Radioactive Waste Management (CoRWM) above also confirm that there is no technical reason why waste from new nuclear power stations should not be disposed of in the same GDF as legacy waste.¹⁹ & ²⁰. The Welsh Government considers that new build waste should therefore be disposed of with legacy waste. Any discussions between potential volunteer host communities and the developer are therefore likely to include new build waste in the inventory for disposal. A potential host

¹⁹ Response from the Committee on Radioactive Waste Management to the Government consultation on the Draft National Policy Statements for Energy Infrastructure (CoRWM document 2748, 2 March 2010).

²⁰ CoRWM Statement of its position on new build wastes (CoRWM document 2749, 2 March 2010)

community will of course be able to withdraw from the discussions at any point.

- i. Any changes to the proposed inventory for disposal following a public test of community support would have to be subject to the agreement of the host community. Failing that agreement an alternative disposal route would be required for any additional waste.
- j. There were no responses to Question 10 which proposed alternative disposal options to geological disposal for waste from new nuclear power stations.

2.19 Support for volunteer communities

Question 11: Do you agree that Government should provide funding to communities to meet the cost of engaging in discussions about potentially hosting a GDF?

Please give your reasons.

Question 12: Do you agree that Government should provide additional investment for communities engaging in discussions about potentially hosting a GDF and further community investment if a community commits to hosting a GDF?

Please give your reasons.

- a. Questions 11 and 12 sought views on funding for potential volunteer host communities to enable them to take part in discussions on an equal basis with the developer, and additional community investment during discussions and following a public test of community support.
- b. Most responses which answered Question 11 supported funding for communities to enable them to fund support and independent advice to enable them to take part in discussions. The Welsh Government considers that the voluntarist approach to siting a GDF will require potential volunteer host communities working as equal partners with the developer and the Welsh Government communities. This can only happen if communities have the resources to devote to this work and access to independent advice on which to base their decisions.
- c. Responses which answered Question 12 varied. Some responses supported additional community investment during discussions and following a public test of community support. Responses also mentioned the need to consider the nature of “community” in this context as the impact of a GDF is likely to spread far wider than the immediate vicinity of the facility, and indeed across local government boundaries, and should be taken into account in considering the spread of community investment. The Welsh Government considers

that decisions about the nature of the community investment will clearly need to involve local communities themselves.

- d. Other responses were concerned that this community investment could be seen as a bribe to encourage communities to accept a GDF and that disadvantaged communities would be under particular pressure to accept a GDF in order to have access to additional community investment.
- e. The Welsh Government has considered these responses very carefully. The Welsh Government considers that a community which decides to host a GDF will be providing a very valuable service to the UK as a whole. It is likely that the community will see a considerable change arising from the construction and operation of the GDF over many decades. The additional community investment proposed would recognise the commitment made by a host community. Furthermore, it is clear that this additional investment will be available to host communities in England and Northern Ireland. The Welsh Government sees no reason why communities in Wales which volunteer to host a GDF should not potentially benefit in the same way.
- f. The Welsh Government has been assured that any funding by the UK Government, both in terms of the costs arising from participation in discussions and of community investment both before and after any final decision by a community to host a GDF, will be available to potential host communities in Wales on the same basis as to communities in England.

ANNEX 1

Consultation Questions

Question 1: Do you agree that the Welsh Government should adopt siting processes and arrangements for engaging with potential volunteer host communities that are compatible with those adopted for England and Northern Ireland providing they are consistent with the needs of Welsh communities?

Please give your reasons.

If you consider that the Welsh Government should adopt a different approach please indicate what alternative arrangements you consider would be appropriate and what advantages you consider they would offer.

Question 2: Do you agree that geological disposal should only be taken forward with volunteer communities willing to engage, without prior commitment, in discussions about potentially hosting a GDF?

Please give your reasons.

Question 3: Do you agree that communities should have a right of withdrawal from discussions which can be exercised at any point prior to a public test of community support?

Please give your reasons.

Question 4: Do you agree that there should be a public test of community support after discussions and the provision of information to a potential host community and before construction of a GDF starts?

Please give your reasons.

Question 5: The Welsh Government would welcome constructive proposals for how the public test of community support should be structured in Wales.

Question 6: Do you consider that potential volunteer host communities should be given access to information such as the national geological screening and information about the science and engineering of geological disposal in advance of engaging in discussions about potentially hosting a GDF?

Please give your reasons.

Question 7: Do you consider that communities in discussion about potentially hosting a GDF should have independent access to expert advice during those discussions when they consider it is necessary?

Please give your reasons.

Question 8: Do you agree that the inventory for disposal should be specified in advance of discussions and that any changes should be subject to community agreement before any commitment to hosting a GDF?

Please give your reasons.

Question 9: Do you agree that the inventory for disposal should include waste from new nuclear power stations?

Please give your reasons.

Question 10: If you do not agree that waste from new nuclear power stations should be included in the inventory for disposal what disposal option would you prefer for waste from new nuclear power stations?

Please give your reasons.

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Please give your reasons.

Question 12: Do you agree that Government should provide additional investment for communities engaging in discussions about potentially hosting a GDF and further community investment if a community commits to hosting a GDF?

Please give your reasons.