

Institution of Mechanical Engineers:

Response to RWM Consultation on National Geological Screening Guidance

Introduction

This response is from the Institution of Mechanical Engineers, a learned society of professional engineers with over 112,000 members across industries, academia and government.

Question 1 - To what extent do you think our proposed approach to providing national-scale existing information about geology relevant to long-term safety is appropriate?

The proposed approach appears sensible and considers potential opportunities across the country.

It is important to consider the difficulties of moving radioactive waste from the current storage facilities at Sellafield and the impact on the existing nuclear community and as such, considerations as to the number of potential sites could be limited. It may be worth considering the scope of the geological survey based on movement of wastes, likelihood of acceptability beforehand, using existing information from previous efforts surrounding GDF in the UK.

Moving the site from waste management from Sellafield could result in loss of jobs, supply chain and skills in the region.

There is also significant information available from other countries where the establishment of GDF is further ahead that we could draw on. Combined with information on the validation of rock behaviours from groups like DECOVALEX, the process in the UK could be streamlined and GDF brought online in a shorter timeframe.

Question 2 - The proposed sources of information are summarised below. To what extent do you think that these sources are appropriate and sufficient for this exercise?

The information resources seem to cover the majority of geological needs. Of additional benefit, may be to consider the ease to create access to the regions and not waste money screening areas where transportation of radioactive waste to the site would be unacceptable to communities or due to topography.

Question 3 - To what extent do you agree or disagree with the proposed form of the outputs from geological screening? What additional outputs would you find useful?

If the output of the geological screening provide simple details of the geology, it is likely that all regions will simple ask, "what does this mean for us?".

Without greater explanation of whether regions will be considered for GDF, it is not clear how this will help regions understand the impacts of the screening programme.

It may be beneficial to support this process with a simple 'traffic light signal' test (Red, Amber and Green). Red would denote unsuitability for one of the main reasons. Amber would require further investigations. Green is judged to be suitable at this stage, subject to further detailed works.

Question 4 - Do you have any other views on the matters presented in the draft Guidance?

The concept of GDF has been a UK option since the 1980s and considerable work and existing information already exists surrounding this issue. Following a 20 year hiatus, the process is being restarted at the very beginning, with opportunities of using previous research and knowledge.

Considering the example of Finland, where following the development of a GDF, a following 20 years of testing is required before further permissions are likely to be granted to build and use the GDF to dispose of radioactive waste. This is considerably further in the future than the proposed developments of new nuclear facilities showing a lack of connected thinking and infrastructure delivery. This may restrict decommissioning efforts.

It is important to distinguish between types of waste and ensuring that spent fuel that still has energy potential is not considered as waste.

To support decommissioning in the UK, streamlining of the process to bring together the decommissioning and development of nuclear infrastructure in the UK would be of benefit.

The current fear of correctly managing the full nuclear fuel cycle is; preventing both the optimisation of this fuel, opportunities for research and development activities, innovation, integrated energy, heat and water systems and the long term safe management of radioactive waste.

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