

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? Please give your reasons.

The approach seems generally sensible but it is odd that there is no reference to the enormous amount of work that has already been undertaken for the site selection process (from the mid 1970s and through the 1980s) which identified geologically promising regions along the lines currently being considered, and the site specific studies which these led to (largely at Sellafield but also at Altnabreac and Elstow) that were undertaken in the 1980s and 90s, the subsequent planning application process and public enquiries. Why are their conclusions no longer valid, requiring a new period of screening?

Question 2: To what extent do you think that the proposed national information sources are appropriate and sufficient for this exercise? Please give your reasons.

They are not sufficient as they stand since they are largely based on extrapolation of surface observations (largely mapping, most of which was undertaken over a century ago). Indeed, it is difficult to understand why the BGS studies undertaken during the 1970s, 80s and 90s cannot be taken as the starting point since these were based on the same information as will apparently be used for the new screening and were undertaken by staff who had first-hand experience of the mapping process and its limitations. An explanation as to why they are believed to be inadequate would be helpful in giving confidence to the adequacy of the new approach being promoted. Specific but important geological properties that cannot be captured from the existing data sets in the depth range of interest (200-1000 m) are: (1) groundwater flow rates (age and chemistry) (2) in situ stress (3) jointing (frequency, orientation, aperture and continuity) It is not clear how uncertainty will be handled other than as margin notes - this is not adequate for assessing suitability or otherwise. Other countries utilise stochastic and probabilistic descriptors to give at least a semi-quantitative measure.

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?

Mapped groundwater characteristics, groundwater abstraction, mining, in situ stress and uncertainty regarding ground profile. Regions likely to be used in the future for geothermal energy (abstraction and/or storage) since these are likely to be in the same geological zones that might be considered favourable for waste disposal.

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

It would be helpful to include a summary of the existing body of knowledge. The reasons should also be given why the existing body of knowledge cannot be taken as the starting point for the present screening process.

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Q6: Do you agree to your responses to this consultation being published? Yes